

Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C.

In the Matter of)	
)	
Rulemaking To Amend Parts 1, 2, 21, and 25)	CC Docket No. 92-297
Of the Commission's Rules to Redesignate)	
The 27.5-29.5 GHz Frequency Band, To)	
Reallocate the 29.5-30.0 GHz Frequency)	
Band, To Establish Rules and Policies for)	
Local Multipoint Distribution Service)	
And for Fixed Satellite Services)	
)	
Petitions for Reconsideration of the)	
Denial of Applications for Waiver of the)	
Commission's Common Carrier Point-to-)	
Point Microwave Radio Service Rules)	
)	
Suite 12 Group Petition for)	PP-22
Pioneer Preference)	

**SECOND REPORT AND ORDER,
ORDER ON RECONSIDERATION, AND
FIFTH NOTICE OF PROPOSED RULEMAKING**

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I. INTRODUCTION

A. Overview

1. This is the Second Report and Order in the Commission's ongoing proceeding to establish and license Local Multipoint Distribution Service (LMDS), a fixed broadband point-to-multipoint microwave service, in the 27.5-29.5 GHz band (28 GHz band). We adopt, in part, service rules proposed in the *First NPRM* and *Third NPRM* to govern the licensing and operations of LMDS.¹ We adopt, in part, competitive bidding rules proposed in the *Third NPRM* to select among mutually exclusive applications for LMDS. We also adopt, in part, proposals in the *Fourth NPRM* to redesignate spectrum in the 31.0-31.3 GHz band (31 GHz band) for LMDS and to impose eligibility restrictions on certain potential applicants.² We rule on petitions for reconsideration of the Commission's dismissal of waiver applications in the *First NPRM*. We also adopt a Fifth Notice of Proposed Rulemaking proposing specific procedural, operational, and administrative rules for the partitioning and disaggregation of LMDS licenses.³

2. Our decision today will open the door for a new broadband wireless service. The technology developed for use in this frequency band provides very high subscriber capacity for two-way video telecommunications. There is sufficient capacity in the proposed LMDS system

¹ Rulemaking to Amend Part 1 and Part 21 of the Commission's to Redesignate the 27.5-29.5 GHz Frequency Band and to Establish Rules and Policies for Local Multipoint Distribution Service: RM-7872, RM-7722, Applications for Waiver of the Commission's Common Carrier Point-to-Point Microwave Radio Service Rules, Suite 12 Group Petition for Pioneer's Preference: PP-22, University of Texas - Pan American Petition for Reconsideration of Pioneer's Preference Request Denial; Notice of Proposed Rulemaking, Order, Tentative Decision, and Order on Reconsideration, 8 FCC Rcd 557 (1993) (*First NPRM*); Rulemaking to Amend Parts 1, 2, 21, and 25 of the Commission's Rules to Redesignate the 27.5-29.5 GHz Frequency Band, to Reallocate the 29.5-30.0 GHz Frequency Band, to Establish Rules and Policies for Local Multipoint Distribution Service and for Fixed Satellite Services: CC Docket No. 92-297, and Suite 12 Group Petition for Pioneer's Preference: PP-22; Third Notice of Proposed Rulemaking and Supplemental Tentative Decision, 11 FCC Rcd 53 (1995) (*Third NPRM*).

² Rulemaking to Amend Parts 1, 2, 21, and 25 of the Commission's Rules to Redesignate the 27.5-29.5 GHz Frequency Band, to Reallocate the 29.5-30.0 GHz Frequency Band, to Establish Rules and Policies for Local Multipoint Distribution Service and for Fixed Satellite Services, First Report and Order and Fourth Notice of Proposed Rulemaking, FCC 96-311, released July 22, 1996 (*First Report and Order and Fourth NPRM*).

³ Comments filed in response to the *First NPRM*, *Third NPRM*, and *Fourth NPRM* and considered in the Report and Order are listed in Appendix E. We include an abbreviated name for each commenter and that abbreviation is used in this Report and Order.

designs to provide wireless competition to both local exchange carriers (LECs) and cable television systems, even in urban areas. In addition, based on the interest generated in LMDS by entrepreneurs in the United States, LMDS has attracted attention and support from both developed and developing countries around the world. LMDS developers offer the prospect of modern wireless telephone systems, video distribution, and other communications services to developing countries that do not have a wireline or cable infrastructure.

3. We defer issuing a final Order on our Tentative Decision and Supplemental Tentative Decision in the *Third NPRM* regarding CellularVision's⁴ pioneer preference request in the *First NPRM*, and, instead, order the Wireless Telecommunications Bureau and the Office of Engineering and Technology to initiate a peer review process. Pursuant to Section 1.402(h) of the Commission's Rules,⁵ the Chief, Office of Engineering and Technology, will select a panel of experts to review CellularVision's technology and recommend whether the request should be granted. The Commission will establish, conduct, and seek the consensus of the panel pursuant to the Federal Advisory Committee Act, and will evaluate its recommendations in light of all the submissions and comments in the record. In addition, panelists will have the authority to seek further information pertaining to preference requests and to perform field evaluations, as appropriate.

4. The Commission makes no warranties about the use of this spectrum for particular services. Applicants should be aware that a Commission auction represents an opportunity to become a Commission licensee in this service, subject to certain conditions and regulations. A Commission auction does not constitute an endorsement by the Commission of any particular services, technologies, or products, nor does a Commission license constitute a guarantee of business success. Applicants should perform their individual due diligence before proceeding, as they would with any new business venture.

B. Background

5. In January 1991, the Commission granted the application of CellularVision's predecessor-in-interest, Hye Crest Management, Inc., for a license to provide LMDS in the 27.5-28.5 GHz frequency band covering the New York City Primary Metropolitan Statistical Area (NYPMSA).⁶ The application was granted pursuant to waiver of the point-to-point rules in Part

⁴ CellularVision is the successor-in-interest to Suite 12 Group and Hye Crest Management, Inc.

⁵ 47 CFR § 1.402(h).

⁶ Application of Hye Crest Management, Inc., for License Authorization in the Point-to-Point Microwave Service in the 27.5-29.5 GHz Band and Request for Waiver of the Rules, File No. 10380-CF-P-88, Memorandum Opinion and Order, 6 FCC Rcd 332 (1991) (*Hye Crest Management*).

21 in order to allow a fixed cellular point-to-multipoint operation for video distribution (wireless cable). The licensee was granted waivers of Sections 21.108 (directionalization and bandwidth requirements) and 21.700 (status eligibility).

6. CellularVision is currently providing competitive video distribution service within its assigned service area.⁷ The licensee is also planning to implement telecommunications service. Approximately 975 applications similar to Hye Crest's were filed between February, 1991 and October, 1992 requesting waiver of the point-to-point rules so that point-to-multipoint service could be offered.⁸ The Commission implemented a freeze on the acceptance of applications for common carrier point-to-point microwave service in the 28 GHz band in an order released October 29, 1992, to stop the filing of additional waiver applications.⁹

7. This rulemaking proceeding was initiated by three petitions for rulemaking concerning the 28 GHz band. Harris filed a petition for rulemaking requesting that the Commission channelize the 28 GHz band so that manufacturers of point-to-point equipment could standardize their systems. CellularVision filed a petition for rulemaking to change the point-to-point rules in a manner consistent with its waiver so that point-to-multipoint video distribution service could be offered on a regular basis in the band. In response to CellularVision's petition, Video/Phone filed a petition for rulemaking proposing a broadband, on-demand video telecommunications service.

8. The *First NPRM* was released on January 11, 1993. In it, the Commission considered the three petitions for rulemaking. The Commission tentatively concluded that redesignation of the fixed point-to-point use of the band to fixed point-to-multipoint could stimulate greater use of the 28 GHz band, and proposed detailed service rules (other than technical requirements) for implementation of LMDS. The Commission did not specify what type of service would have to be offered, indicating that the marketplace would best decide the use of this spectrum.

9. The Commission proposed two blocks of 1,000 megahertz each for LMDS. This proposal was based on CellularVision's existing technology.¹⁰ However, because the 28 GHz

⁷ CellularVision filed a timely renewal application for its commercial license for the NYPMSA. The Commission will commence processing CellularVision's renewal application by placing the application on Public Notice not later than 30 days after the release date of this Order. The new LMDS services rules will apply to this renewal application.

⁸ The Commission denied the waiver requests and dismissed the applications in the *First NPRM*.

⁹ Petitions for Redesignation of the Common Carrier Point-to-Point Microwave Radio Service Frequency Band 27.5-29.5 GHz, RM-7722, RM 7872, Order, 7 FCC Rcd 7201 (1992).

¹⁰ CellularVision, by virtue of its license pursuant to waiver of the existing point-to-point rules, is the only operator licensed to provide LMDS in the United States; it is operating a system in Brighton Beach, New York City. CellularVision and TI have operating systems in other countries. Other LMDS developers are testing prototypes and

band is allocated on a co-primary basis with the Fixed Satellite Service (FSS) for uplinks, the Commission also requested comment from satellite entities regarding the effect of redesignation and the proposed rules on any proposed satellite use of the band.

10. In response to the *First NPRM*, a number of different uses were proposed for terrestrial and satellite licensing. The Commission considered various proposals for the 28 GHz band and released the Second Notice of Proposed Rulemaking (*Second NPRM*) on February 14, 1994.¹¹ In it, the Commission found that the majority of parties supported the Commission's finding of widespread interest in point-to-multipoint uses of the 28 GHz band, but also found significant interest in the band on the part of the satellite industry. Accordingly, the Commission tentatively concluded that the public interest would be served by allowing both terrestrial and satellite providers to co-exist in the 28 GHz band, and decided to begin a negotiated rulemaking procedure to develop technical rules for sharing the band. As a result, the Commission established the LMDS/FSS 28 GHz Band Negotiated Rulemaking Committee (NRMC).

11. The NRMC met between July 26, 1994, and September 23, 1994; the Report of the Committee, dated September 23, 1994, was presented to the Commission and is included in the docket of this proceeding. The results of the work of the NRMC indicated that LMDS and FSS service uplinks (*i.e.*, the ubiquitous subscriber transceivers) are not technically able at this time to share the same spectrum, and that LMDS and feeder links to non-geostationary satellites operating in the Mobile Satellite Service (MSS) could share the same spectrum, subject to feasible sharing criteria. The Commission released the *Third NPRM* on July 28, 1995, that proposed to segment the 28 GHz band to permit both LMDS and FSS systems to operate and to accommodate feeder links for certain MSS systems in the band. We also proposed service and technical rules revised from the *First NPRM* and competitive bidding procedures to choose among mutually exclusive applications.

12. In the *First Report and Order* and *Fourth NPRM* we adopted our proposal to designate band segments in the 28 GHz band for several types of wireless systems and cleared the way for our consideration in this Report and Order of the proposed, outstanding service and technical rules in order to implement LMDS. We proposed to designate the 31 GHz band for LMDS use on a primary protected basis. We sought comment on whether the Commission should adopt LMDS eligibility or use restrictions for incumbent LECs and cable operators within their respective geographic service areas. Those issues are resolved in this Order.

components. A number of LMDS developers have experimental licenses.

¹¹ Rulemaking to Amend Part 1 and 21 of the Commission's Rules to Redesignate the 27.5-29.5 GHz Frequency Band and to Establish Rules and Policies for Local Multipoint Distribution Service, RM-7872, RM-7722, Second Notice of Proposed Rulemaking, 9 FCC Rcd 1394 (1994) (*Second NPRM*).

C. Summary of Decision

1. LMDS Service Rules and Related Decisions

13. Following is a summary of our actions with respect to LMDS service rules and related issues:

- Spectrum at 31.0-31.3 GHz is designated for LMDS, and incumbent licensees, other than Local Television Transmission Service (LTTS) licensees, are protected from harmful interference in the segments at 31.0-31.075 and 31.225-31.300 GHz.
- The LMDS spectrum (27.5-28.35 GHz, 29.1-29.25 GHz, and 31.0-31.3 GHz) will be licensed by the 493 Basic Trading Areas (BTAs) for a total of 1,300 GHz of spectrum per BTA.¹²
- Two licenses, for 1150 megahertz and for 150 megahertz, will be awarded for each BTA, for a total of 986 LMDS licenses.
- All licensees will be permitted to disaggregate and partition their licenses pursuant to our general Part 101 assignment and transfer rules.
- There are no restrictions on the number of licenses a given entity may acquire.
- Incumbent LECs and cable companies may not obtain in-region 1,150 megahertz licenses for three years.
- LMDS includes both common carrier and non-common carrier services, and an applicant may request authorization in a license on a common carrier basis, a non-common carrier basis, or on both a common carrier and a non-common carrier basis in a single license.
- LMDS licensees will be subject to liberal construction requirements.

¹² See Rand McNally Commercial Atlas & Marketing Guide 36-39 (123d ed. 1992). For a listing of the counties that comprise each BTA service area employed in Personal Communications Service (PCS), see Public Notice, Report No. CW-94-02 (Sept. 22, 1994). Rand McNally is the copyright owner of the Major Trading Area (MTA) and BTA Listings, which list the BTAs contained in each MTA and the counties within each BTA, as embodied in Rand McNally's Trading Area System MTA/BTA Diskette, and geographically represented in the map contained in Rand McNally's Commercial Atlas & Marketing Guide. The conditional use of Rand McNally copyrighted material by interested persons is authorized under a blanket license agreement dated February 10, 1994, and covers use by LMDS applicants. This agreement requires authorized users of the material to include a legend on reproductions (as specified in the license agreement) indicating Rand McNally ownership.

- All petitions for reconsideration of our decision to dismiss the waiver applications made by entities seeking a license under *Hye Crest Management* are denied.
- As noted,¹³ we direct the Chief, Office of Engineering and Technology, to select a panel of experts to review CellularVision's technology and recommend whether its pioneer preference request should be granted.

2. Competitive Bidding Rules and Procedures

14. Following is a summary of our actions with respect to LMDS competitive bidding procedures:

- We will use simultaneous multiple round auctions for LMDS.
- We will announce by Public Notice prior to the LMDS auction the general guidelines for bid increments; we will use a simultaneous stopping rule; we will reserve the discretion to vary the duration of the bidding rounds or the interval at which bids are accepted; and we will use the Milgrom-Wilson activity rule with some variations.
- We delegate authority to the Chief, Wireless Telecommunications Bureau, to determine an appropriate calculation for the upfront payment, which the Bureau will announce by Public Notice.
- Winning bidders must supplement their upfront payments with a down payment sufficient to bring their total deposits up to 20 percent of their winning bid(s).
- There will be a substantial payment assessed if bidders withdraw a high bid, are found not be qualified to hold licenses after submitting a high bid, or default on payment of a balance due.
- We adopt installment payments and bidding credits for small entities participating in LMDS auctions.

II. LOCAL MULTIPOINT DISTRIBUTION SERVICE

A. Designation of Spectrum in 31 GHz Band

1. Background

¹³ See para. 3, *supra*.

15. In the *First Report and Order and Fourth NPRM*, we adopted a band plan that designated the spectrum in the 27.5-30.0 GHz band (28 GHz band plan) for LMDS systems. However, we required that LMDS licensees restrict their operations to hub-to-subscriber transmission in the 29.1-29.25 GHz segment.¹⁴ Thus, LMDS licensees would not have 1,000 megahertz of unencumbered spectrum. We proposed to designate the 31.0-31.3 GHz (31 GHz) band for LMDS on a primary protected basis, in order to ensure that there is adequate two-way interactive capacity for the various proposed LMDS systems.¹⁵ We requested comment on our proposal to designate LMDS as a primary "protected" use at 31 GHz, which means that LMDS providers would be entitled to interference protection from any other current authorized primary user of the band.¹⁶ We requested comment on any technical issues that LMDS operators might encounter and possible measures for overcoming such technical difficulties associated with LMDS use.

16. We addressed the extent to which the 31 GHz band is encumbered by existing services and the possible impact of our proposal on these services. We found that existing use is light and concentrated in only a few areas, and that the majority of the licensees are local governments using the band to monitor and control traffic light facilities. We concluded that our proposal to make LMDS a protected service presupposes that incumbent licensees would continue to operate on an unprotected basis as secondary to LMDS. We found that overlaying LMDS operations in those areas where there are existing users raises potential interference problems that could degrade the utility of such systems, as well as adversely affect the new LMDS operations.¹⁷

17. Consequently, we proposed a number of alternatives for accommodating incumbent licensees without limiting the usefulness of the band for LMDS. We pointed out that in adopting the 31 GHz rules, we had directed entities that could not operate where there is a potential for harmful interference to operate instead in other bands where protection is provided. We stated that the 31 GHz services are permitted in the 23 GHz band and requested comment on the relocation of incumbent 31 GHz systems to that band. We asked whether incumbents should be entitled

¹⁴ *Fourth NPRM*, at paras. 67-71, 97-98.

¹⁵ *Id.* at para. 100.

¹⁶ *Id.* We found that current rules governing licensing of spectrum in the 31 GHz band do not provide interference protection to any operations in the band. *Id.* at paras. 95, 96 (citing Sections 21.701(k), 74.602(h), 78.18(a)(5), 94.65(n), and 95.1(b) of the Commission's Rules, 47 CFR §§ 21.701(k), 74.602(h), 78.18(a)(5), 94.65(n), 95.1(B)). We explained that the service rules had been adopted to satisfy various types of short range, fixed and mobile communications requirements in the 31 GHz band. *Id.* at para. 99 (citing Establishment of a Spectrum Utilization Policy for the Fixed and Mobile Services Use of Certain Bands Between 947 MHz and 40 GHz, Gen. Docket No. 82-334, Second Report and Order, FCC 85-49, released Feb. 8, 1985) (*Spectrum Utilization Second Report and Order*)).

¹⁷ *Id.* at paras. 99, 102-103.

to any recovery for reasonable relocation costs and, if so, if LMDS applicants should be required to contribute to the recovery of such reasonable costs.¹⁸

18. Alternatively, we requested comment on whether there are any methods by which the incumbent services could be accommodated without delaying, causing interference to, or limiting the usefulness of LMDS at 31 GHz. We pointed out that although incumbent licensees have assumed all the risks of receiving interference, we nevertheless encouraged cooperation among the LMDS providers and existing licensees in exploring any methods that would allow the services to coexist without placing any economic or technical burdens on the LMDS providers. We also asked if there are existing mechanisms that will permit all of these services to share the entire band. Finally, we requested comment on whether we should accept any new applications, modifications, or renewal applications in the 31 GHz services in light of the proposal to establish a secondary status for these services.¹⁹

19. The following sections, in reviewing the record and presenting our decisions, address several broad issues. First, is there a need for 1,000 megahertz of unencumbered spectrum for LMDS and, if so, does the 31 GHz band offer the best means of achieving this in combination with spectrum at 28 GHz that we have already assigned to LMDS? Second, if we utilize spectrum at 31 GHz for LMDS, what is the nature of incumbent operations that will be affected and what is the level of incumbent usage? Third, how should we weigh the utility of these uses as compared to LMDS? Fourth, in making spectrum at 31 GHz available for LMDS, should incumbents be relocated to other bands, or should some form of sharing the 31 GHz spectrum be developed that balances the needs of incumbents and LMDS providers in a way that best serves the public interest?

2. Comments

20. Support for our proposal to redesignate, on a primary protected basis, the 31 GHz band for LMDS is expressed by a variety of proponents of LMDS. This includes satellite systems represented by GE, Hughes, LMC, and Motorola, which argue that allocating an additional 300 megahertz of spectrum for LMDS use is important to satisfy their spectrum requirements and promote innovative satellite networks with a wealth of high-speed, broadband, interactive services on demand within the United States and around the globe.²⁰ They state that the additional unencumbered spectrum for LMDS will solve concerns created by the *First Report and Order*, in

¹⁸ *Id.* at para. 102.

¹⁹ *Id.* at paras. 103-104.

²⁰ GE Comments to *Fourth NPRM* at 1-3; Hughes Comments to *Fourth NPRM* at 2; LMC Comments to *Fourth NPRM* at 3-4; Motorola Reply Comments to *Fourth NPRM* at 4.

which we provided that 150 of the 1,000 megahertz in 28 GHz would be shared on a co-primary basis with NGSO/MSS feeder links.

21. Support also is filed in comments of various groups and associations on behalf of their members, including PTV, Ad Hoc RTG, and WCA. PTV generally supports the availability of the proposed spectrum for use by its public television station members.²¹ Ad Hoc RTG argues that we should designate 300 megahertz because of significant demand for the two-way interactive services that LMDS can provide and that rural telephone companies seek to promote.²² WCA points out that we correctly found that wireless cable operators, which it represents, could use the additional spectrum for two-way LMDS services to provide local telephone services in competition with local telephone companies.²³

22. Support for allocating an additional 300 megahertz for LMDS also was filed in comments by HP, RioVision, and WebCel, which argue that the extra capacity is needed to ensure the economic viability of an interactive LMDS system and accommodate the two-way and symmetric broadband LMDS uses that are expected to compete with incumbent cable and telephony services.²⁴

23. CellularVision submits extensive comments in support of our proposal, which it argues is an essential element of its efforts since 1991 to establish LMDS on sufficient spectrum to develop the multiple potential uses for LMDS that are not yet ascertained.²⁵ CellularVision initiated LMDS under the Pioneer's Preference authorized in the *First NPRM*, and anticipates offering consumers the full range of two-way services intended by designating additional spectrum for LMDS. Its affiliate, CVTT, states that it developed the multi-faceted high-tech LMDS technology and urges we promptly designate 31 GHz for LMDS so that industry will develop the new equipment and applications to create commercially viable uses with the 28 GHz spectrum.²⁶ Other developers of LMDS that submit comments in support are Endgate, M/A-COM, TI, and

²¹ PTV Comments to *Fourth NPRM* at 3.

²² Ad Hoc RTG Comments to *Fourth NPRM* at 7-8.

²³ WCA Comments to *Fourth NPRM* at 1-3.

²⁴ HP Comments to *Fourth NPRM* at 2; RioVision Comments to *Fourth NPRM* at 1; WebCel Reply Comments to *Fourth NPRM* at 18-19.

²⁵ CellularVision Comments to *Fourth NPRM* at 7-8; CellularVision Reply Comments to *Fourth NPRM* at 6-7.

²⁶ CVTT Comments to *Fourth NPRM* at 5.

Titan. They urge us to promptly designate the additional spectrum in 31 GHz to provide the technology sector with the assurance to develop and implement the services intended for LMDS.²⁷

24. In response to our request for comments on the technical adaptability of the band, ComTech states that equipment costs would be higher if the 31 GHz band is used rather than 1 gigahertz of contiguous spectrum, because multiple antennas would be required rather than only one.²⁸ RioVision is concerned as to what additional equipment may be required for two-way transmissions in 31 GHz and how much the additional equipment will cost.²⁹ However, CellularVision and CVTT assert that leading LMDS manufacturers, such as Philips, Titan, and M/A-COM, are expected promptly to develop commercially viable applications and equipment for use of the 31 GHz band in conjunction with their equipment for the 28 GHz band.³⁰ However, they request that LMDS licensees be given the flexibility to deploy services that can use the 31 GHz spectrum until the technology is developed for LMDS uses. M/A-COM and Titan confirm that they intend to commit research and development resources to develop commercially viable hardware to be used in connection with the 28 GHz LMDS systems.³¹ Endgate asserts that the technical solution for antennas and active electronics is more difficult to design and produce if the return link is within the 31 GHz band, but that solutions can be readily developed once we designate the spectrum.³²

25. In response to our request for comments on proposals for accommodating incumbent services authorized under the existing 31 GHz services, several of the comments argue that no alternative provisions for protecting them from interference are warranted because incumbent licenses are issued on a non-protected basis and thus they are secondary to any other service that may operate on the band.³³ ComTech contends that if these licensees cannot operate on a non-

²⁷ Endgate Comments to *Fourth NPRM* at 1; M/A-COM Comments to *Fourth NPRM* at 4; TI Reply Comments to *Fourth NPRM* at 1-4; Titan Reply Comments to *Fourth NPRM* at 1.

²⁸ ComTech Comments to *Fourth NPRM* at 2.

²⁹ RioVision Comments to *Fourth NPRM* at 1.

³⁰ CellularVision Comments to *Fourth NPRM* at 5, 8; CVTT Comments to *Fourth NPRM* at 5.

³¹ M/A-COM Reply Comments to *Fourth NPRM* at 4; Titan Reply Comments to *Fourth NPRM* at 1.

³² Endgate Comments to *Fourth NPRM* at 1.

³³ CellularVision Comments to *Fourth NPRM* at 9; CellularVision Reply Comments to *Fourth NPRM* at 6; ComTech Comments to *Fourth NPRM* at 7; GE Comments to *Fourth NPRM* at 3; Hughes Comments to *Fourth NPRM* at 2; Hughes Reply Comments to *Fourth NPRM* at 2; RioVision Comments to *Fourth NPRM* at 2; TI Reply Comments to *Fourth NPRM* at 6.

interference basis, it is their legal and financial responsibility to correct that interference.³⁴ GE argues that they should be required to terminate operations or move to another band if it is technically infeasible for current systems to coexist with LMDS.³⁵

26. CellularVision and TI argue that the licensees knowingly accepted such non-protected licenses and have no legitimate expectation of protection in the face of harmful interference from LMDS.³⁶ Hughes argues that our proposal does not alter the legal standing of incumbent licensees.³⁷ ComTech, RioVision, and TI object to any compensation if such licensees are relocated, inasmuch as they are secondary users that must bear the impact of any interference problems, and to any applications for licensing of such services or, as TI further argues, any grandfathering of existing licensees.³⁸

27. CellularVision, Endgate, and HP support our suggestion for cooperation among LMDS interests and incumbent 31 GHz licensees to explore methods for allowing both technologies to coexist on the 31 GHz band. HP is concerned about displacing existing services, particularly local municipalities using the spectrum for traffic control, and suggests alternatives that include splitting 31 GHz into two bands, establishing criteria for sharing that eliminates potential interference, and relocating traffic signal systems to 28 GHz.³⁹ On reply, CellularVision submits a plan for sharing the band with incumbent users.⁴⁰ Endgate submits another plan based on different segmentation for sharing the band with incumbents.⁴¹

28. Opponents of our proposal to redesignate 31 GHz spectrum for LMDS include a variety of proponents of existing 31 GHz services, as identified below. As a general matter, parties opposing our proposal argue that we underestimated the extent and importance of the incumbent 31 GHz services and licensees, in particular those governmental entities using the spectrum for

³⁴ ComTech Comments to *Fourth NPRM* at 7.

³⁵ GE Comments to *Fourth NPRM* at 3.

³⁶ CellularVision Reply Comments to *Fourth NPRM* at 4; TI Reply Comments to *Fourth NPRM* at 6-7.

³⁷ Hughes Reply Comments to *Fourth NPRM* at 3.

³⁸ ComTech Comments to *Fourth NPRM* at 7; RioVision Comments to *Fourth NPRM* at 2; TI Reply Comments to *Fourth NPRM* at 10-11.

³⁹ HP Comments to *Fourth NPRM* at 3.

⁴⁰ CellularVision Reply Comments to *Fourth NPRM* at 8-10.

⁴¹ Endgate Reply Comments to *Fourth NPRM* at 1.

traffic and air pollution control. They argue that the impact of LMDS operations as proposed would undermine all existing operations and be contrary to the public interest. Most oppose any alternative that requires them to leave the 31 GHz band and subjects them to interference from LMDS. Most request that a plan be developed that allows them to continue existing services at least in part of the band while providing LMDS with the spectrum needed.

29. Several governmental entities submit comments in support of the continued use of 31 GHz for traffic control systems. The municipalities include the Cities of Palm Springs, San Diego, and Topeka, which are licensees, and the City of Long Beach and the City and County of Honolulu, which are not licensees. They all have purchased and installed 31 GHz radio links to interconnect signalized intersections with a Traffic Management Center in systems that manage traffic incidents, congestions, and synchronization. They intend to extend the systems into growing areas. They argue that their 31 GHz microwave systems are cost-effective and inexpensive to install and maintain. They request that we maintain their ability to use the frequency for their traffic control systems and that we not permit LMDS to interfere with such services, which would create undue hardships. Many of the systems are part of Intelligent Transportation Systems (ITS) promoted under Federal transportation goals.⁴²

30. Comments also were filed on behalf of the State of California (by MSAPRC) and by Nevada DOT. MSAPRC argues that it has funded signal synchronization projects in 31 GHz along heavily traveled, multijurisdictional arterial highways in Southern California as a specific air pollution reduction strategy. Nevada DOT is replacing an outdated traffic system throughout the metropolitan Las Vegas Area, for which applications are pending, with a system that relies on 31 GHz channels for surveillance. MSAPRC and Nevada DOT argue that the harmful interference from LMDS would seriously impair such systems and they request we adopt a plan that permits 31 GHz systems to continue to operate and grow.⁴³

31. Comments also were filed by USDOT, through its ITS Joint Program Office, and by SBA. USDOT asserts that it and area governments are making major investments in new technologies to alleviate traffic congestion and that 31 GHz point-to-point microwave links are a significant tool. SBA argues that in the Initial Regulatory Flexibility Analysis (IRFA) in the *Fourth NPRM*, we underestimated the number of small entities to be affected by our proposed redesignation of 31 GHz and failed to consider alternatives to displacing incumbent licensees. They

⁴² Honolulu Comments to *Fourth NPRM* at 1; Long Beach Comments to *Fourth NPRM* at 3-4; Palm Springs Comments to *Fourth NPRM* at 2; San Diego Comments to *Fourth NPRM* at 1-2; Topeka Comments to *Fourth NPRM* at 1.

⁴³ MSAPRC Comments to *Fourth NPRM* at 1-2. Nevada DOT filed comments in a letter on September 5, 1996, which also summarized an *ex parte* contact, after the period closed for the filing of comments. Nevada DOT Letter of Sept. 5. We accept these late-filed comments as part of the record in order to ensure a complete assessment of issues raised in this proceeding.

oppose our proposal to redesignate the entire 31 GHz band exclusively to LMDS as against the public interest and Federal goals promoting traffic management systems and clean air.⁴⁴

32. IMSA is an organization that promotes the development and use of electrical signaling and communications systems for public safety. Its members include many governmental agencies. IMSA submits extensive comments opposing the factual and legal basis of our proposal. ITE is an organization of transportation professionals that argues that our proposal would adversely impact the development of ITS being promoted by USDOT as an alternative traffic management tool. IMSA and ITE request that we consider alternatives to displacing 31 GHz services and argue that continued access to the band is in the public interest.⁴⁵

33. Four developers and sellers of equipment submit comments opposing our proposal. Sierra is the leading developer and supplier of 31 GHz technology. It submits extensive comments to demonstrate that our proposal is against the public interest and urging that 31 GHz services be continued. Comstat states that it recently installed three systems supplied by Sierra and has invested in spare radio systems. Sunnyvale specializes in traffic control equipment and asserts that Sierra just completed development for it of a microwave unit that is now available in the market to meet demands for 31 GHz technology. They argue that our proposed redesignation would render their equipment useless, because of the harmful interference from LMDS, and urge us to permit 31 GHz services to continue.⁴⁶ ICE-G develops systems operating at 28 GHz and 40 GHz, and opposes designation of 31 GHz for LMDS on the grounds that 40 GHz is better suited because of the equipment it has developed.⁴⁷

34. In response to our proposals for alternatives and for cooperation to achieve some methods for coexisting, most comments request that we adopt a band-sharing plan that preserves a part of the band for continuation of 31 GHz services. On reply, Sierra submits a band-sharing

⁴⁴ SBA Reply Comments to *Fourth NPRM* at 2-5. USDOT filed the comments in a letter on September 26, 1996, after the close of the period for comments. USDOT Letter of Sept. 26. We accept these late-filed comments as part of the record in order to ensure a complete evaluation of issues raised in this proceeding.

⁴⁵ IMSA Reply Comments to *Fourth NPRM* at 16-19. ITE filed comments in a letter on September 9, 1996, after the close of the period for the filing of comments in this proceeding. ITE Letter of Sept. 9, 1996. We accept these late-filed comments in the record in order to ensure we have a complete record for our determinations.

⁴⁶ Comstat Comments to *Fourth NPRM* at 2-3; Sierra Comments to *Fourth NPRM* at 1-6; Sierra Reply Comments to *Fourth NPRM* at 1-2; Sunnyvale Comments to *Fourth NPRM* at 1-5; Sunnyvale Reply Comments to *Fourth NPRM* at 1-5.

⁴⁷ ICE-G Comments to *Fourth NPRM* at 1-3; ICE-G Reply Comments to *Fourth NPRM* at 1.

plan based on different segmentation and provisions than that of CellularVision.⁴⁸ The plan is supported by IMSA, ITE, SBA, Sunnyvale, and USDOT.⁴⁹

3. Decision

a. Summary

35. We conclude that it is in the public interest to protect incumbent licensees insofar as it is possible to maintain the *status quo* in their existing operations, while allowing LMDS access to the entire spectrum to initiate new communications service with wide-ranging advanced technologies. We achieve this public interest objective through the following actions, findings, and decisions in the succeeding sections of this Order.

36. First, we designate 300 megahertz of spectrum in the 31 GHz band to LMDS. Second, we conclude that incumbent licensees in the 31 GHz band do not presently use the spectrum intensively, but that certain uses by State and local government agencies provide important services to the public. Third, we find that we must carefully balance these incumbent uses and the potential value of LMDS in deciding upon the best means of resolving issues in this proceeding in the public interest. Fourth, we adopt a plan for use of the spectrum that includes features of plans suggested in the record. We find that incumbents cannot co-exist in the 31 GHz band without protection from LMDS, and that relocation to the 23 GHz band or any other band is neither practical nor suitable. Most commenters support a band-sharing plan that accords incumbents some protection from LMDS, while allowing LMDS to be designated to use the spectrum.

37. Fifth, although LMDS is accorded protection throughout the spectrum as we proposed, we impose on LMDS the requirement to protect incumbent licensees from harmful interference in the two 75 megahertz bands at each end. Incumbent and LMDS operators in the two outer bands will negotiate to establish the necessary protections for each other. Sixth, incumbents in the middle 150 megahertz, except those with temporary authorizations, may relocate to the outer bands by modifying their licenses within 15 days after the effective date of rules adopted in this Order,⁵⁰ or pursue alternative service options. Finally, we do not permit new applications to be filed under our current 31 GHz licensing rules, and pending applications are dismissed. Incumbent licensees may continue their operations within the terms of their licenses, as long as they do

⁴⁸ Sierra Reply Comments to *Fourth NPRM* at 12-13.

⁴⁹ ITE Letter of Sept. 9, 1996; IMSA Reply Comments to *Fourth NPRM* at 17; SBA Reply Comments to *Fourth NPRM* at 3; Sunnyvale Reply Comments to *Fourth NPRM* at 2; USDOT Letter of Sept. 26, 1996.

⁵⁰ See paras. 91-92, 440, *infra*.

not expand or increase services. While they may renew their licenses, they are limited in their modifications.

b. Need and Usefulness of 31 GHz Spectrum for LMDS¹

38. Sierra argues that our proposed designation of 31 GHz for LMDS is both excessive and premature.⁵² It contends that LMDS proponents have not justified a present need for 300 megahertz at 31 GHz nor the technical suitability for the band. It asserts that the 1,000 megahertz allotted on a primary or co-primary basis in the 28 GHz band is ample for LMDS at this early stage of its development. Sierra contends that wireless cable and local exchange services must compete with highly advanced systems, and that the likelihood of success for LMDS entry in these markets, as well as other proposed LMDS uses, is too conjectural to warrant taking 31 GHz spectrum away from its current users. Sierra requests that we continue our efforts described in the *First Report and Order* to acquire access to spectrum below 27.5 GHz for LMDS.⁵³ ICE-G requests that we also reconsider designating LMDS at 40 GHz, which it argues is well suited for LMDS uses.⁵⁴

39. In the *First Report and Order*, we concluded that additional spectrum was needed outside the 28 GHz band for LMDS because the comprehensive 28 GHz band plan we adopted did not provide the 1 gigahertz of unencumbered spectrum as originally proposed. As CellularVision states in its comments, the LMDS proponents consistently have demonstrated throughout this proceeding that each LMDS operator must have at least 1 gigahertz of unencumbered spectrum. This is necessary to ensure LMDS can provide a competitive broadband alternative to local exchange services offered by local telephone companies and to video programming services provided by wireline cable operators.⁵⁵

40. We summarize in paragraphs 20 through 23, *supra*, all the LMDS proponents that support our proposal, and they emphasize the necessity of acquiring additional unencumbered

⁵¹ We note as a preliminary matter that we also sought comment regarding how to assign the additional spectrum in the 31 GHz band in connection with determining the licensing rules for LMDS. These comments are considered in the next section of this Order, in which we decide the number of licenses for geographic areas in which LMDS is licensed. Nevertheless, we also take the comments into account in this section to the extent they are pertinent to deciding whether and how to reallocate the 31 GHz band to LMDS.

⁵² Sierra Comments to *Fourth NPRM* at 10-11.

⁵³ *First Report and Order*, at para. 39.

⁵⁴ ICE-G Comments to *Fourth NPRM* at 3.

⁵⁵ CellularVision Reply Comments to *Fourth NPRM* at 5.

spectrum because 150 megahertz of spectrum in the 1,000 megahertz block originally proposed has been limited to downstream communications. They describe the experimentation and advancements in two-way services that require the 300 megahertz and that achieves our goal for the full range of telecommunications and video services intended. We conclude that it has been sufficiently demonstrated that LMDS has greater potential in the marketplace if we provide the additional spectrum we proposed for its licensing.

41. The comments do not reflect any technical problems that are obstacles to use of the 31 GHz band by LMDS operators, nor the need for any measures to facilitate their deployment of services in the band. While LMDS proponents acknowledge that no LMDS equipment has been specifically designed for the band, equipment manufacturers claim they are committed to developing the necessary hardware once we designate the 31 GHz band for LMDS use.⁵⁶ In addition, HP contends that non-contiguous spectrum will enable interactive broadband services without the need for costly diplexers and filters in the customer premises equipment.⁵⁷ Contrary to Sierra's contentions, we find that 31 GHz is suitable for LMDS and can readily be used for LMDS to compete with the full range of telecommunications and video programming services if we provide the necessary spectrum.

42. Several commenters support an alternative allocation of adjacent spectrum below 27.5 GHz for LMDS to provide a single contiguous band.⁵⁸ We considered this in the *First Report and Order* where we directed Commission staff to continue discussions with NTIA to explore the feasibility of shared use or reallocation of some portion of this band from the Government for commercial usage.⁵⁹ No further developments have occurred since that time to make the requested spectrum available to us for designation for LMDS use. We believe that it would not be in the public interest to delay the licensing of LMDS and the development of LMDS equipment while we explore potentially speculative options for additional spectrum. However, we continue to support these efforts to explore the availability of additional spectrum.

43. As for the 40 GHz band, we considered the viability of the band for LMDS in the *First Report and Order* and concluded that, while its immediate use was not established, we would

⁵⁶ M/A-COM Comments to *Fourth NPRM* at 4; Titan Reply Comments to *Fourth NPRM* at 1; CVTT Comments to *Fourth NPRM* at 5; CellularVision Comments to *Fourth NPRM* at 5, 8. ComTech, Endgate, and RioVision are concerned about the costs of additional equipment to use the band, but they uniformly support access to the band. ComTech Comments to *Fourth NPRM* at 1; Endgate Comments to *Fourth NPRM* at 1; RioVision Comments to *Fourth NPRM* at 1.

⁵⁷ HP Comments to *Fourth NPRM* at 2.

⁵⁸ See, e.g., CellularVision Comments to *Fourth NPRM* at 5-6; Sierra Comments to *Fourth NPRM* at 6.

⁵⁹ *First Report and Order*, at para. 39.

address possible long term uses in a pending proceeding that is reviewing frequencies above 40 GHz.⁶⁰ No commenter has presented compelling reasons for us to revisit the issue. Insofar as other bands apart from 31 GHz are available at this time to assign to LMDS, we find, based on our assessment of possible alternatives and based upon the record established in this proceeding, that no adequate alternatives presently exist that would suffice for the expeditious development of services contemplated for LMDS. Sierra and other commenters opposing our proposed approach have failed to identify any alternative sources of spectrum that could reasonably be considered sufficient to meet our stated objectives in licensing LMDS.

c. Extent of Incumbent Licenses and Services in 31 GHz Band

(1) Number of Licensees

44. In the *Fourth NPRM*, we concluded that existing usage in the 31 GHz band appears to be relatively light, geographically concentrated, and principally engaged in traffic signal communications.⁶¹ In providing a description and estimate in the IRFA of the small entities that might be affected by our proposals, we concluded that the majority would be small entities that are municipalities or other local governmental entities. We stated that there are 27 such incumbent licensees in the band and we estimated that 25 or 26 were small entities based on the SBA definition of small municipalities, which have populations less than 50,000.⁶² Sierra, IMSA, SBA, and other commenters opposing our proposed redesignation of 31 GHz argue that we have significantly underestimated the number of licensees, as well as the volume and extent of the current 31 GHz services nationwide.

45. Specifically, Sierra states that we overlooked several licensees in the list of licensees that were mailed copies of the *Fourth NPRM* and argues that our data base appears to be incomplete.⁶³ IMSA submits a list of a number of current 31 GHz licensees that reflects 70 rows of names, generated from the Commission's data base, and asserts that there actually may be more.⁶⁴ Sunnyvale submits a list of more than 40 electronic traffic control modules it has installed, and another list of more than 40 locations where a larger number of installations are in process. It further argues that the license count does not reflect the inherent time delay in applying the

⁶⁰ *Id.* at para. 14.

⁶¹ *Id.* at para. 99.

⁶² *Id.*, Appendix C.

⁶³ Sierra Comments to *Fourth NPRM* at 2.

⁶⁴ IMSA Reply Comments to *Fourth NPRM* at 8, Appendix A.

technology to the traffic control environment.⁶⁵ ITE and USDOT assert that about 40 communities have installed, or are installing, 31 GHz traffic control systems.⁶⁶ SBA asserts that it was informed by Sierra that there may be as many as 100 incumbent licensees, both public and private, in this band. SBA submits a list prepared by Sierra of 27 dealers and resellers of Sierra's equipment, which is used by incumbent licensees.⁶⁷

46. We agree with Sierra and the other commenters that the number of licensees we included in the IRFA of the *Fourth NPRM* did not reflect the total number of current licensees under the existing 31 GHz rules. Based on a review of our current data base, we find a total of 86 licensees operating at 122 stations. We note that the list of licensees submitted by IMSA is similar, but out-of-date and does not identify many of the licensees. Moreover, the list duplicates several licensees by identifying each application and counting it separately.

47. We clarify that, in the IRFA, we were considering the number of incumbent licensees that are small governmental entities that would be affected by our proposal to designate 31 GHz for LMDS, rather than all of the incumbent licensees that might be small entities. A review of our current database reveals that existing licenses have been issued for three categories of 31 GHz services, as follows:

- LTTS provided by a variety of telephone and other communications companies.
- Governmental services including traffic control provided by municipalities, counties, and States.
- Private business uses provided by a variety of businesses and groups.

In the IRFA, we stated that 27 incumbent licensees were governmental entities. However, we correct that number under our current database that reflects that, of the total 86 licensees, 19 are governmental entities and that 14 of them are municipalities of various sizes. As for the remaining number of licensees, our database reflects that 59 are LTTS licensees and 8 are private business users.⁶⁸

⁶⁵ Sunnyvale Comments to *Fourth NPRM* at 2.

⁶⁶ ITE Letter of Sept. 6, 1996; USDOT Letter of Sept. 26, 1996.

⁶⁷ SBA Reply Comments to *Fourth NPRM* at 4, Appendix.

⁶⁸ Appendix B includes a list identifying each of the existing governmental and private business licensees and the cities in which their operations currently are authorized to reflect those markets affected by these incumbent licensees.

48. Sunnyvale identifies approximately 40 municipalities in which it has installed traffic control devices. However, we can find only approximately 12 on the list that are licensees and are in our database. Although it also submits the names of more than 50 governmental entities where it has installations on contract and awaiting completion, we do not know how many of those localities, if any, would become licensees. Although ITE and USDOT also assert that 40 communities are using 31 GHz traffic systems, we note above that our database reflects a total of 14 licensed municipalities and we cannot otherwise verify commenters' figures. It could be the listings identify unlicensed users of the spectrum, a fact that may have escaped our monitoring and enforcement efforts. If users of 31 GHz spectrum have failed to apply for a license and are not operating lawfully, they cannot expect to be included in our considerations here.

49. As for the list submitted by SBA identifying 27 dealers of Sierra's equipment, the list does not indicate if any of them are licensees or if the equipment they sell is used by licensed 31 GHz services. However, we note that Comstat is listed, and it filed comments. Comstat states it has installed three systems supplied by Sierra to carry critical information from facility to facility and that were appropriately licensed through the Commission. It claims that the customers would have to move to other frequencies if we designated 31 GHz for LMDS as proposed and that, as a result, the systems would be useless and its spare radio systems would be a total loss.⁶⁹

50. We realize that manufacturers of equipment used for existing 31 GHz services would be affected by our proposal, which could require them to modify such equipment for other spectrum or develop new equipment for other uses, such as LMDS. Nevertheless, these manufacturers are not included in the proposed rule changes, and they are neither subject to our existing 31 GHz rules nor the proposed changes to the licensing of that band. SBA argues that over a dozen of Sierra's resellers appear to be small businesses, but since it appears they are not licensees and the impact of this rulemaking is unclear and indirect at best, we do not alter our figures to include them in the number of existing services impacted by our proposed designation for LMDS nor consider how alternatives could minimize such an impact if it did exist.

51. We also clarify for Sierra that the licensees listed for mailing the *Fourth NPRM* omits the LTTS licensees, but includes all the remaining licensees. We find their omission from the mailing list has no material effect on our considerations of our proposed designation. In the *Fourth NPRM*, we sought comment from all interested parties and discussed all incumbent licensees, noting that 31 GHz spectrum is used as a radio link by broadcasters.⁷⁰ In this Report and Order, we are considering all incumbent licensees and interests in determining whether our proposal is in the public interest.

⁶⁹ Comstat Comments to *Fourth NPRM* at 2-3.

⁷⁰ *Fourth NPRM*, at para. 99.

(2) Scope of Existing 31 GHz Services

52. IMSA, Sierra, and Sunnyvale argue that we also underestimated the locations and extent of all incumbent uses of 31 GHz spectrum when we stated in the *Fourth NPRM* that usage appears light and geographically concentrated in a few areas of the Nation.⁷¹ Sierra presents a variety of arguments in support of its contentions, as follows.⁷² It asserts that the traffic control systems are used by more than 30 State, county, and city governments spread over at least 10 States and that many of them are large cities, counties, or States. It contends that uses are not limited to traffic lights and local area networks, and that non-governmental users are similarly dispersed and provide an assortment of wireless voice, video, and data communication services for private and common carrier applications.

53. Sierra also asserts that our proposal to designate the 31 GHz band for primary use by LMDS ignores our goals when we adopted the service rules for 31 GHz in 1985 to meet communications needs unfilled by traditional service categories. Sierra states that it provides the majority of 31 GHz transmitters currently in use, that it is shipping 75 percent more equipment in 1996 than in 1995, and that it expects to ship four times more equipment in 1997 than in 1996. It contends that the market for private network equipment continues to double every two years and that the wireless solution for short-range transmissions in 31 GHz is particularly economical and preferable.

54. In addressing these arguments, we first seek to clarify the nature and scope of the services that we authorized for 31 GHz in the *Spectrum Utilization Second Report and Order*. As we stated in the *Fourth NPRM*, we made the spectrum at 31 GHz available to satisfy various short-range, fixed and mobile communications needs pursuant to reduced licensing and coordination requirements.⁷³ The examples included a common carrier using the band to establish a temporary radio link to bypass an existing cable facility that has been disrupted or a broadcaster establishing a radio link between a television camera and a mobile relay station needed by broadcasters or cable operators. To encourage expanded use of the band, we authorized operations on a co-equal, non-protected basis.⁷⁴ Applicants specify whether operations are to be licensed on a point-to-point basis or within an area of operation defined by a point and radius.⁷⁵ The rules im-

⁷¹ *Id.*

⁷² Sierra Comments to *Fourth NPRM* at 2-6.

⁷³ *Fourth NPRM*, at para. 99.

⁷⁴ *Spectrum Utilization Second Report and Order*, at para. 10.

⁷⁵ *Id.* at 10.

plementing the 31 GHz services are currently located in Part 101 for the private operational fixed and LTTS microwave services, in Part 74 for auxiliary broadcasting services, in Part 78 for cable television relay services, and in Part 95 for general mobile radio services.⁷⁶ The 31 GHz band is one of several bands identified in the rules that are available for these services.

55. Our designation of the 31 GHz band for these services was part of an ongoing proceeding to establish a spectrum utilization policy for the use of certain bands between 947 MHz and 40 GHz by fixed and mobile services.⁷⁷ However, just as we did in that docket, we have a responsibility to revisit spectrum use to determine whether it is being put to the most efficient and effective use in the public interest. We have noted that our database reveals that current licensees fall into three categories of users, and all of them are regulated under Part 101. Most are LTTS licensees. Unlike the other two categories of users, LTTS is licensed on a broad area basis to provide temporary service for less than six months on an isolated, as-needed basis.⁷⁸ Service may be offered only if licensees are able to clear their channels for use. Thus, reliance on 31 GHz spectrum to meet these immediate needs is tenuous, since licensees must have alternative services available if interference-free 31 GHz spectrum is not available. Only eight licenses are issued for private business uses, which are limited in scope to internal business uses. As for the remaining 19 governmental licensees, they provide traffic control services that all of the comments address and that we discuss below.

56. Thus, although licensees may be dispersed nationwide and services scattered among many States, most of those licenses are for services with no fixed location that are only temporary and secondary in nature. All of the services are limited to very short range microwave services that consist of simplified communication functions, which are not licensed only on the 31 GHz band. We do not dispute the importance that some State and local governmental agencies place on their utilization of 31 GHz for traffic control and other functions. However, they are limited to

⁷⁶ 47 CFR §§ 101.147(t), 101.803(e), 74.602(h), 78.18(a), 95.1(b). We recently adopted Part 101 to consolidate all of the common carrier microwave service rules in Part 21 and all of Part 94, which governed private microwave services, into one set of streamlined rules. Thus, the previous rules implementing 31 GHz services in Sections 21.701(k) and 94.65(n) have been superseded by the Part 101 rules. Reorganization and Revision of Parts 1, 2, 21, and 94 of the Rules to Establish a New Part 101 Governing Terrestrial Microwave Fixed Radio Services, WT Docket No. 94-148; Amendment of Part 21 of the Commission's Rules for the Domestic Public Fixed Radio Services, CC Docket No. 93-2; and McCaw Cellular Communications, Inc., Petition for Rulemaking, RM-7681; Report and Order, 11 FCC Rcd 13449 (1996) (*Part 101 Report and Order*).

⁷⁷ Establishment of a Spectrum Utilization Policy for the Fixed and Mobile Services' Use of Certain Bands Between 947 MHz and 40 GHz, Gen. Docket No. 82-334, Notice of Proposed Rulemaking, FCC 83-2, released Feb. 15, 1983 (*Spectrum Utilization First Notice*); First Report and Order, FCC 83-393, released Nov. 3, 1983 (*Spectrum Utilization First Report and Order*).

⁷⁸ 47 CFR §§ 101.805, 101.815.

approximately 19 licensees and their operations are confined to localized services scattered among seven States. Based on an assessment of the nationwide availability of the spectrum, it is apparent that the number of entities operating under the existing rules for 31 GHz services is small and the locations are very few and confined.

(3) Traffic Control Systems

57. Most of the comments opposing our proposed designation of 31 GHz argue that the band is being used by public safety entities to provide important traffic control services that are being developed in furtherance of national traffic and air pollution control goals. As indicated, there are 19 licensees that are governmental entities and that are authorized to engage in such services. IMSA, ITE, Nevada DOT, SBA, Sierra, Sunnyvale, and USDOT argue that our proposal fails to take into account the importance of the traffic control technology and systems in 31 GHz to public safety and pollution control. Specifically, IMSA and Sierra argue that the technology is becoming increasingly popular for effective traffic control systems which involve video, voice, and other communications devices and that are significantly less costly than traditional method of interconnecting signals using underground cable.⁷⁹ Sunnyvale recently completed development of traffic control equipment with Sierra that is being promoted on the market and that is in demand.⁸⁰

58. ITE argues that transportation professionals are involved in ITS programs funded by USDOT, which use different technologies to improve transportation and promote more efficient use of existing infrastructure by avoiding new highway construction costs. ITE argues that 31 GHz traffic systems are used for ITS and that we should not change the use of the band without making USDOT a partner in the decision making process.⁸¹ USDOT asserts that use of point-to-point microwave links has become a significant tool in the surveillance and control of the roads by providing a data and video pipeline for traffic managers. It asserts that the Federal and local governments are making major investments in new technologies to alleviate traffic congestion and urges that we protect existing and in-progress investments by allowing 31 GHz service to continue on at least a portion of the spectrum.⁸² SBA emphasizes the importance of our consid-

⁷⁹ IMSA Reply Comments to *Fourth NPRM* at 2-5; Sierra Reply Comments to *Fourth NPRM* at 2-4.

⁸⁰ Sunnyvale Comments to *Fourth NPRM* at 1.

⁸¹ ITE Letter of Sept. 6, 1996.

⁸² USDOT Letter of Sept. 26, 1996.

eration of the impact of our proposal on local governmental entities, which it contends are expected to grow significantly now that Sunnyvale's traffic control technology is available.⁸³

59. Of the governmental entities that are licensed to use the spectrum for such traffic control systems, MSAPRC indicates that it is funding such systems in Southern California. Nevada DOT established a traffic signal control system for the Las Vegas metropolitan area, which has over 1 million population. It has received authorization to operate in the 13 GHz and 18 GHz bands to transport video images in the system, and is awaiting authorization in the 31 GHz band to extend the system around the control center. The system will cost approximately \$11 million and is expected to reduce air pollution and save costs over existing management systems. It argues that the video surveillance signals will be degraded without deployment of the 31 GHz technology and the viability of the new network would be threatened.⁸⁴

60. Of the municipalities, Palm Springs states it has licensed and installed 31 GHz radios for the past two years involving 35 signals, with a plan for an additional 20 signals to be added in the next year and for a total of 70 when the project is completed in three years. It argues that the systems are affordable, important to the public safety, and reduce exhaust emissions. San Diego recently completed installation of a signal system using 31 GHz to coordinate data between 13 intersections and a master traffic control system. It argues that design and installation costs are substantially reduced, maintenance costs are less, and the interconnect system is more effective than others.

61. Topeka operates 42 radio links in the 31 GHz band as part of a system that controls traffic lights throughout the city. It asserts that it invested \$165,000 in the system. Although Honolulu and Long Beach do not hold licenses, Lone Beach claims it has spend over \$1.5 million to purchase 31 GHz radios that link 37 intersections to the Traffic Management Center (TMC). Honolulu asserts that it depends on the 31 GHz bandwidth for communications between its TMC and various signal sites, and that it is expanding its system into freeway and other programs. All the entities argue that adoption of our proposed designation would require them to modify or replace equipment in order to use other technologies, at great expense to taxpayers.⁸⁵

62. We find that commenters have demonstrated that the traffic control systems currently using 31 GHz spectrum are an important category of incumbent services. We recognized in the *Fourth NPRM* that traffic signal communication is the most extensive incumbent use of 31 GHz,

⁸³ SBA Reply Comments to *Fourth NPRM* at 1.

⁸⁴ MSAPRC Comments to *Fourth NPRM* at 1; Nevada DOT Letter of Sept. 5, 1996.

⁸⁵ Palm Springs Comments to *Fourth NPRM* at 1; San Diego Comments to *Fourth NPRM* at 1; Topeka Comments to *Fourth NPRM* at 1; Long Beach Comments to *Fourth NPRM* at 1; Honolulu Comments to *Fourth NPRM* at 1.

which commenters confirm.⁸⁶ These systems are used increasingly by state and local governments to reduce congestion at busy intersections and combat air pollution by controlling vehicle emissions under standards and goals established by the Federal Government. In the following sections we balance these incumbent interests with the interests that we believe make it important for us to designate spectrum for new LMDS operations.

d. Basis for Redesignation: Protection Status of Incumbents and Public Interest

63. In the *Fourth NPRM*, we sought comment regarding whether incumbents should be relocated to another band where interference protection is provided by our rules, such as the 23 GHz frequency band, or whether incumbents could be accommodated by other methods without affecting LMDS in the same band despite the fact that incumbents have assumed all the risks of receiving interference.⁸⁷ IMSA, SBA, Sierra, and Sunnyvale argue that our reliance on the present lack of interference protection at 31 GHz is no basis to displace the incumbent services from 31 GHz and subject them to interference, for the first time, that would effectively eliminate their services. IMSA argues that we ignored in the *Fourth NPRM* both our intent in originally allocating the 31 GHz band and the practical reality of 31 GHz operations under currently applicable technical rules.⁸⁸ Sierra points out that, although 31 GHz users may have no legal protection against interfering co-users, they are afforded effective protection against interference by the technical rules.⁸⁹

64. All three categories of current licensees were licensed under rules that require they share the frequency on a co-equal basis on a non-protected basis, without protection from harmful interference.⁹⁰ However, as commenters assert, their operations in effect are free from interference. In the *Spectrum Utilization Second Report and Order* we concluded that the probability of causing or receiving harmful interference at 31 GHz would be small because of the technical requirements we imposed and the geographic diversity of use. Our goal was to provide for reduced licensing and coordination requirements for service providers utilizing the band, giving each

⁸⁶ *Fourth NPRM*, at para. 99.

⁸⁷ *Id.* at para. 102.

⁸⁸ IMSA Reply Comments to *Fourth NPRM* at 11.

⁸⁹ Sierra Comments to *Fourth NPRM* at 6-8; Sierra Reply Comments to *Fourth NPRM* at 7-8.

⁹⁰ 47 CFR §§ 101.103(b), 101.147(t).

licensee equal access and no rights to object to harmful interference being caused by any other licensed operation.⁹¹

65. Thus, as IMSA argues, it would appear that incumbent 31 GHz licensees engaged in traffic control operations are not typical secondary spectrum users, inasmuch as all other categories of licensees in the band are not entitled to protection. And among the current licensees, the technical rules provide them with effective protection and immunity from the other licensed operators.⁹² Moreover, current licensing is not extensive, so that licensees experience little or no impact from other 31 GHz licensees. Despite their non-protected status, incumbent licensees are not currently subject to interference and had no reason to anticipate a large degree of interference under the existing licensing scheme.

66. Sierra further argues that the fact that incumbents rely on technical rules for interference protection, rather than on more explicit rules barring interfering operations, is irrelevant to the requirement that we make allocation decisions based on the public interest.⁹³ IMSA and Sierra, among others, request that we consider fully the interests of the present users of 31 GHz as reflected in this record, which they argue establishes that it would be contrary to the public interest to adopt our proposal to redesignate the band for LMDS use on a primary basis.⁹⁴ IMSA argues that although some public value is derived from the promotion of new commercial technologies such as LMDS, we cannot ignore the corresponding public detriment from displacing important governmental services such as traffic signal coordination facilities in which a considerable amount of taxpayer dollars is invested.⁹⁵

67. The public interest underlies any decision we make in allocating spectrum. It is for this reason we sought comment on alternative methods for accommodating incumbent spectrum uses in the 31 GHz band. Although we have found that implementation of LMDS generally is in the public interest, we must weigh all the equities reflected in the record and balance any benefits against any possible harms. This applies equally to the incumbent services as to the LMDS services. As SBA points out, we are required to consider the impact of our proposed designation on existing users of the spectrum, in particular small governmental entities and small businesses, and consider alternatives that could minimize the impact of our proposals on them. We find that

⁹¹ *Spectrum Utilization Second Report and Order*, at para. 10.

⁹² Sierra Comments to *Fourth NPRM* at 6-7; Topeka Comments to *Fourth NPRM* at 2.

⁹³ Sierra Comments to *Fourth NPRM* at 8. See also Sierra Reply Comments to *Fourth NPRM* at 5-8 (citing *H&B Communications Corp. v. F.C.C.*, 420 F.2d 638 (D.C. Cir. 1969)).

⁹⁴ IMSA Reply Comments to *Fourth NPRM* at 2-4; Sierra Comments to *Fourth NPRM* at 8.

⁹⁵ IMSA Reply Comments to *Fourth NPRM* at 3, 5.

the traffic control systems serve important governmental services and are used to achieve Federal, State, and local goals to relieve traffic congestion and air pollution. We also find that 31 GHz licensees have existed co-equally and free from interference up until now. Licensed municipalities demonstrate they have substantial investments in signal systems using a number of 31 GHz radio links, and could require protection of these public safety operations from LMDS.⁹⁶

68. On the other hand, we held in the *First Report and Order* that LMDS is an important new technology with a wealth of innovative services to meet a nationwide demand for improved wireless telecommunications and video subscriber services. It is expected to compete with local exchange companies for telephone service and with cable carriers, greatly enhancing customer choice and facilitating the rapid dissemination of innovative communications services.⁹⁷ We will weigh all these considerations in the following sections in determining how to designate the 31 GHz band between these competing interests.

e. Incumbent Accommodation Alternatives

(1) Co-Existence with LMDS

69. We requested comment regarding how incumbent licensees might co-exist with LMDS services under our proposal to designate the entire 300 megahertz in the 31 GHz band to LMDS on a primary, protected basis. For example, we asked if LMDS licensees would have sufficient capacity to accommodate existing licensees as customers of their services.⁹⁸

70. Endgate maintains that, if the entire 300 megahertz is designated for LMDS as proposed, incumbent users could begin to lease point-to-point spectrum from the spectrum owners. It contends that this has the advantage of guaranteeing interference-free operation.⁹⁹ CellularVision and CVTT request that we ensure that LMDS licensees have the flexibility to deploy services utilizing the 31 GHz spectrum during the period that the technology is being developed for LMDS use.¹⁰⁰ CellularVision argues that the flexibility to enter into post-auction sublease agreements will ensure the most efficient use of the spectrum. ComTech, RioVision, and TI argue that existing licensees accepted their licenses with non-protected status and as such

⁹⁶ See paras. 57-61, 66, *supra*.

⁹⁷ *First Report and Order*, at paras. 14-15.

⁹⁸ *Fourth NPRM*, at para. 106.

⁹⁹ Endgate Reply Comments to *Fourth NPRM* at 1.

¹⁰⁰ CellularVision Comments to *Fourth NPRM* at 5; CVTT Comments to *Fourth NPRM* at 9.

would be secondary to LMDS and not entitled to compensation or other accommodation.¹⁰¹ TI contends that incumbents could continue to use the spectrum by engineering around LMDS to resolve interference problems and notes that Topeka suggested relocating the radios it operates.¹⁰²

71. All of the comments that were filed opposing designation of the 31 GHz band to LMDS are from parties interested in the traffic control uses of the band provided by governmental entities under our existing licensing rules for 31 GHz. Of these traffic control interests, none of them believes that co-existence under our proposal is possible. They argue that, if the Commission accords LMDS access to the entire 300 megahertz on a primary protected basis, any incumbent licensees are reduced to a secondary status and the interference from LMDS would essentially eliminate their 31 GHz services. They seek to avoid the costs of new or modified equipment to either accommodate the interference or move to another service band. Topeka, for example, urges that we at least make provisions to "grandfather" public safety entities to protect them from interference or provide compensation for equipment changes.¹⁰³ None of the comments indicates if LMDS technology would be useful or could be modified to serve their needs.

(2) Relocation to 23 GHz Band

72. We asked for comments on various aspects of the 23 GHz band, its suitability, and if incumbents should be entitled to relocation costs.¹⁰⁴ No comments present reasons to support a move to the 23 GHz band. IMSA, Sierra, and Topeka oppose the proposal and argue that the band is not a suitable substitute for 31 GHz for a range of technical and financial reasons.¹⁰⁵ For example, Sierra argues that the cost of modifying existing 31 GHz radios would be the same as replacing them with new, more costly 23 GHz equipment. Moreover, 23 GHz equipment must be larger than 31 GHz, so that a 23 GHz antenna with a small enough beamwidth for efficient frequency reuse is too big for existing housing and would require the development of new casings before incumbents could relocate to 23 GHz.¹⁰⁶

¹⁰¹ ComTech Comments to *Fourth NPRM* at 5; RioVision Comments to *Fourth NPRM* at 2; TI Reply Comments to *Fourth NPRM* at 10-11.

¹⁰² TI Reply Comments to *Fourth NPRM* at 9.

¹⁰³ Topeka Comments to *Fourth NPRM* at 3.

¹⁰⁴ *Fourth NPRM*, at para. 102.

¹⁰⁵ IMSA Reply Comments to the *Fourth NPRM* at 13; Sierra Comments to *Fourth NPRM* at 12-13; Topeka Comments to *Fourth NPRM* at 3-4.

¹⁰⁶ Sierra Comments to *Fourth NPRM* at 12-13.

73. As commenters point out, moving to the 23 GHz band would impose financial hardships on incumbent licensees. This is a large burden to impose on the tax-supported municipalities and other governmental entities that use the traffic control systems in 31 GHz. It appears that the operations cannot be replicated in the 23 GHz band without considerable changes to the 31 GHz equipment. In these circumstances, we do not adopt relocation of incumbent services to 23 GHz as an alternative at this time. We will consider in the following sections the plans submitted by the various parties for sharing the 31 GHz band through compromises.¹⁰⁷

(3) Proposed Band-Sharing Plans

74. CellularVision suggests that we modify our proposal to designate the entire 300 megahertz in the 31 GHz band for LMDS.¹⁰⁸ Instead, it proposes that we designate a total of 50 megahertz, from 31.0-31.025 GHz and 31.275-31.3 GHz, for point-to-point use on a primary basis, and a total of 250 megahertz, from 31.025-31.275 GHz, for LMDS on a primary basis for two-way service. CellularVision suggests that LMDS licensees be given secondary access to the 50 megahertz designated on a primary basis for point-to-point use, based on its belief that LMDS technology will not interfere with current 31 GHz use.

75. CellularVision submits a technical paper to demonstrate that two 25 megahertz segments are sufficient to accommodate use by the current systems and that operation on that basis is technically feasible. It argues that the paper demonstrates that the band is being used inefficiently by a small number of licensees and that, with an increase in frequency stability and use of narrower channels, existing uses can be accommodated in only 50 megahertz. In reply, Sierra filed *ex parte* statements that address the technical requirements of incumbent traffic control services and the need for a minimum of 120 megahertz for incumbent systems to operate.¹⁰⁹

76. Sierra and Sunnyvale offer a proposal set out by Sierra for sharing 300 megahertz in the 31 GHz band.¹¹⁰ The plan would designate a total of 150 megahertz to be retained for use by existing and potential users for fixed service point-to-point microwave radios under the existing 31 GHz rules. That spectrum would consist of 75 megahertz between 31.000-31.075 GHz and 75 megahertz between 31.225-31.300 GHz. The middle 150 megahertz of the band would be

¹⁰⁷ Given the approach we have decided to take in this Order, we need not consider the comments regarding compensation for relocation costs to be incurred by incumbent moves to other bands.

¹⁰⁸ CellularVision Reply Comments to *Fourth NPRM* at 9-10.

¹⁰⁹ *Ex Parte* Letter from Sierra to S. Toller, Sept. 10, 1996 (Sierra *Ex Parte* Letter of Sept. 10, 1996); *Ex Parte* Letter from Sierra to W. Caton, Sept. 26, 1996 (Sierra *Ex Parte* Letter of Sept. 26, 1996).

¹¹⁰ Sierra Reply Comments to *Fourth NPRM* at 11-13; Sunnyvale Reply Comments to *Fourth NPRM* at 1-3.

designated for LMDS use on a primary protected status. The Sierra plan provides that the middle 150 megahertz would be designated for subscriber-to-hub operations to compensate for the 150 megahertz that was restricted against such operations in the 28 GHz band. Sierra and Sunnyvale claim that the plan offers equipment design benefits for LMDS because of the separation between the 29 GHz and 31 GHz bands. Although the frequency separation does make antenna design more challenging, changes would be minimal because the total difference between the upper ends and lower ends of the two bands is less than 2 gigahertz.¹¹¹ As for incumbent services, Sierra does not anticipate harmful adjacent-band interference from LMDS use in the middle sub-band. Sierra asserts that the proposed plan should meet the technical needs of both services.¹¹²

77. Under the plan, current 31 GHz services would retain the use of the upper and lower 75 megahertz sub-bands under the same conditions to which they are currently subject, on an un-protected basis and free of interference from LMDS. LMDS would not be allowed to operate there. Incumbent point-to-point users in the middle block designated for LMDS could remain on their present frequencies until they receive interference from, or cause interference to, LMDS operations. At that time, their equipment would be retuned, rather than replaced, to conform to the new frequency plan and they would henceforth operate in the upper or lower 75 megahertz bands. All new point-to-point licenses would be issued in the two outer band segments. Sierra asserts that it offers the plan after consultation with LMDS interests.¹¹³

78. Endgate supports the Sierra plan as a reasonable compromise of the various competing interests. It argues that we should increase the existing 50 milliwatt power limit at 31 GHz to approximately a 55 dBW limit.¹¹⁴ IMSA, ITE, Nevada DOT, SBA, and USDOT support the plan, which they contend accommodates all the parties' interests while accomplishing the policy goals of the Commission. They argue that all users of the spectrum should be adequately accommodated to best serve the public interest and assure equitable treatment of the public agencies involved.¹¹⁵

f. Spectrum Sharing Plan

¹¹¹ Sierra Reply Comments to *Fourth NPRM* at 12; Sunnyvale Reply Comments to *Fourth NPRM* at 2.

¹¹² Sierra Reply Comments to *Fourth NPRM* at 12, n.33.

¹¹³ *Id.* at 12, n.31.

¹¹⁴ Endgate Reply Comments to *Fourth NPRM* at 1.

¹¹⁵ USDOT Letter of Sept. 26, 1996; SBA Reply Comments to *Fourth NPRM* at 2-3.

79. Based on the considerations expressed in the record, we have decided to modify our proposal to designate the 31 GHz band on a primary protected basis for LMDS. Instead, we adopt a plan to share the 300 megahertz based on features of both the plans submitted by CellularVision and Sierra. We find that a sharing plan is supported by the principal advocates of both LMDS and incumbent 31 GHz services. Although most of the LMDS commenters generally support our proposed designation, none has filed pleadings in specific opposition to the subsequently submitted plans. As we had requested, the parties involved have cooperated and produced alternative band sharing plans that they each contend would allow the services to coexist without imposing economic or technical burdens on LMDS providers. These are laudable efforts that enable us to reach a decision that, while not relying exclusively on either proposed plan, is more equitable and balanced.

(1) Segmentation

80. We adopt our proposal to designate for LMDS the 300 megahertz of spectrum in the 31 GHz band. However, rather than adopt our proposal to accord LMDS primary protected status and incumbents secondary status for the entire 300 megahertz, we segment the band as enumerated by Sierra for purposes of according protection from harmful interference,¹¹⁶ as follows:

SEGMENTATION PLAN	
FREQUENCY BAND	SPECTRUM
31.000-31.075 GHz	75 megahertz
31.075-31.225 GHz	150 megahertz

As discussed more fully below, we grant LMDS protection from harmful interference by incumbents or other LMDS licensees in the middle 150 megahertz of the 31 GHz band. We do not grant any incumbent licensees protection from harmful interference in the middle 150 megahertz. We provide

that the existing operations of governmental and private business incumbent licensees in the upper and lower 75 megahertz bands are to be protected from harmful interference from LMDS to enable them to continue existing operations. LMDS licensees in the upper and lower 75 megahertz bands will receive protection from harmful interference by other LMDS licensees and from all incumbent licensees.

81. We find that this spectrum division ensures sufficient spectrum to meet the needs of both LMDS and incumbent licensees. It has been sufficiently established that LMDS requires at a

¹¹⁶ Harmful interference is defined in the Commission's Rules as "interference which endangers the functioning of a radionavigation service or of other safety services or seriously degrades, obstructs, or repeatedly interrupts a radiocommunication service operating in accordance with these [International Radio] Regulations." 47 CFR § 2.1.

minimum an additional 150 megahertz of unencumbered spectrum in order to compensate for the 150 megahertz encumbered in the *First Report and Order* and to provide LMDS with the 1 gigahertz we found it needed for broadband service. Although CellularVision has proposed that LMDS be assigned 250 megahertz in the center of the band, it appears that this proposal was based on its belief that two 25 megahertz segments are sufficient for incumbent systems. However, Sierra has demonstrated that this segmentation cannot accommodate most incumbent operations.

82. According to Sierra, even major equipment modifications would not make sufficient capacity available to manage certain kinds of inputs that are important to municipal licensees that use their equipment for video monitoring.¹¹⁷ It appears that an assignment of only 50 megahertz to incumbents would make it difficult to avoid intra-system interference in certain system configurations. Sierra points out that a typical major intersection sends and receives data in four directions, consisting of both directions along each street. Thus, at least four frequency pairs are required to allow proper frequency coordination to prevent individual radio links at the intersection from interfering with each other.¹¹⁸ We conclude that CellularVision's segmentation plan would be inadequate for important incumbent services.

83. Sierra has stated that the 200 megahertz requirement for existing, four-frequency pair traffic control installation equipment could be modified to accommodate four frequency pairs within 150 megahertz, at a price accessible to existing municipal licensees.¹¹⁹ Although Sierra has indicated that it could modify its equipment to accommodate existing operations within 125 megahertz (with 62.5 megahertz at each end of the band),¹²⁰ this would not be as satisfactory as providing 75 megahertz at each end. On balance, we find that the segmentation proposal advanced by Sierra meets the needs of LMDS, while providing most incumbent licensees with the spectrum needed to continue their important operations.

84. Sunnyvale requests that, if no compromise designation of spectrum is approved, we initiate a negotiated rulemaking under Section 1.18 of the Commission's Rules.¹²¹ Inasmuch as we adopt a band sharing plan that reflects the segmentation requested by Sierra and provides the protection that Sunnyvale seeks for incumbent licensees, we deny the request. As a result, we

¹¹⁷ Sierra *Ex Parte* Letter of Sept. 10, 1996, at 2.

¹¹⁸ *Id.* at 1-2.

¹¹⁹ *Id.* at 2.

¹²⁰ Sierra *Ex Parte* Letter of Sept. 26, 1996.

¹²¹ Sunnyvale Reply Comments to *Fourth NPRM* at 3.

need not address Sunnyvale's argument that adoption of our original proposal to authorize 300 megahertz in the 31 GHz band would constitute a modification of the existing licenses in the band by removing them from a co-equal status among approved users to a secondary status with new users.¹²² The band sharing plan we adopt allows incumbent licensees engaged in traffic control services, which Sunnyvale addresses, to continue operating in the amount of spectrum they require without harmful interference from LMDS, thus preserving their status.

(2) LMDS Use and Protection

85. We decline to adopt Sierra's proposal with respect to the limitations it seeks to impose on LMDS access to the entire band. We are adopting our proposal to designate the entire 300 megahertz for LMDS use, rather than designating only the 150 megahertz in the middle segment, as Sierra requests. There is no need to exclude LMDS from the outer 150 megahertz. LMDS is required to protect governmental and private business incumbent licensees in the outer bands from harmful interference, which is to ensure that they are able to continue their existing operations. In the case of such incumbent licensees that are licensed on a point-to-radius basis, LMDS licensees shall be subject to this protection requirement in the case of existing links operated by such incumbents and in the case of links added by such incumbents in the future in accordance with the terms of their point-to-radius licenses. For example, an LMDS licensee may not initiate operations within the point-to-radius area licensed to an incumbent, even if the incumbent has not initiated operations to the fullest extent of the license. An LMDS licensee, however, may initiate operations at the border of the incumbent's license area without prior coordination if the LMDS licensee's operations would not cause harmful interference to an incumbent's existing operations. In the future, the incumbent may add additional stations within its license area and would need to coordinate if its new operations might cause harmful interference to the existing operations of the LMDS licensee.¹²³

86. We also adopt our proposal to provide LMDS with protected status in the entire 300 megahertz, rather than limiting it to only a primary protected status in the middle segment. Although LMDS may operate in the middle 150 megahertz without concern to the interference it may be creating, it is to be concerned to a certain extent about interference in the outer bands in order to protect governmental and private business incumbent licensees. However, we require those incumbent licensees in the outer bands to also protect LMDS from harmful interference. This does not diminish their protection from LMDS, but does require both sets of licensees to negotiate and arrive at mutually acceptable solutions to interference in the outer bands.

¹²² *Id.* at 4 (citing *F.C.C. v. National Broadcasting Co. (KOA)*, 319 U.S. 239 (1943)); Sunnyvale Comments to *Fourth NPRM* at 4.

¹²³ We discuss the ability of incumbent licensees to modify their existing licenses in paras. 102-103, *infra*.

87. We reject Sierra's proposal to limit LMDS operations in the middle segment to only subscriber-to-hub service. This limitation would be inconsistent with our goal to provide LMDS with the middle 150 megahertz on a primary protected basis to ensure that, when it joins this band with the unencumbered 850 megahertz in the 28 GHz band, it has the spectrum required for interactive communications and full development of LMDS technology and service. Because of the secondary status of incumbents in this middle portion, we find that limits on LMDS operations there would not necessarily help incumbents (without upgrading their status), but would very likely thwart our goals for LMDS. We therefore adopt no restriction in the 31 GHz band with regard to the direction of permissible LMDS transmissions. LMDS operators thus are permitted to transfer information from hub-to-hub, hub-to-subscriber, and subscriber-to-hub.

(3) Incumbent Licensee Use and Protection

88. We have determined that a plan to share the 31 GHz band better meets the needs of incumbents, rather than relocation of incumbents to another band. All incumbents are permitted to continue operating in the entire 300 megahertz of spectrum. In addition, our rules do not preclude an incumbent licensee from obtaining an LMDS license. We decline to adopt CellularVision's proposal to exclude incumbents altogether from the middle segment that is assigned to LMDS. That serves no purpose under the plan we adopt, which provides LMDS with primary status in the middle segment. Thus, LMDS has the protection it needs from harmful interference to ensure an unencumbered segment of 150 megahertz, and the continued operations of incumbents in this segment is of negligible impact.

89. As for the two outer bands of 75 megahertz each, we do not include LTTS incumbent licensees for protection from harmful interference from LMDS as we do for the remaining incumbent licensees. As discussed previously, our database reveals that 59 of the total 86 licensees under 31 GHz rules are LTTS, while the remaining 19 are governmental entities and 8 are private businesses.¹²⁴ Essentially all of the comments seek protection for the traffic control systems established by the municipal licensees, while no comments address LTTS. As we noted, LTTS is unlike the other two categories of users because of the temporary, secondary nature of the service.¹²⁵ We leave the status of LTTS licensees unchanged for several reasons. Unlike the municipal and other private business incumbent licensees, they provide short-term services on a temporary basis and do not have the same type of permanent facilities or systems that we have found should be protected. Moreover, they currently operate on a secondary basis to any permanent facilities wherever their temporary operations are set up. Finally, they have broad authoriza-

¹²⁴ See para. 47, *supra*.

¹²⁵ See paras. 54-55, *supra*.

tion that provides access to the entire band and would make it difficult to limit their protection to a small geographic area.

90. All incumbents in the middle segment, and LTTS in the entire band, will be secondary to LMDS and may continue to operate within the existing parameters of their licenses. However, should frequency conflicts arise with an LMDS system, all incumbents have several possible options for resolving the conflict. The incumbent can modify its system to eliminate any interference to LMDS systems, acquire the use of spectrum from the LMDS licensee through geographic partitioning, transfer its operations to a different transmission medium, or lease service or transmission capacity from a common carrier.

(4) Relocation and Modification Procedures

91. We seek to accommodate non-LTTS incumbents in the middle 150 megahertz segment that cannot alter their systems satisfactorily or are otherwise concerned about their secondary status to LMDS providers in that segment. We provide an option for them to relocate to the blocks of 75 megahertz at each end of the band in order to take advantage of the protection we have provided non-LTTS licensees in those segments from harmful interference by LMDS licensees. This relocation option will be available for a 15-day period following the effective date of the rules adopted in this Report and Order, as set forth in paragraph 440, *infra*. Because of the fact that the rules adopted in this Report and Order will not take effect before the end of the 60-day period following their publication in the Federal Register, we believe that incumbent licensees will have sufficient time to determine whether to file license modifications in order to relocate to the blocks of 75 megahertz at each end of the band.

92. Relocation from the middle 150 megahertz segment requires that the non-LTTS incumbent apply for a modification of its license under the relocation procedure we adopt in this Order. Modification applications are to be filed by the end of the 15-day period commencing on the effective date of the rules adopted in this Order. Modification applications are filed in accordance with the existing rules that govern the incumbent 31 GHz licensees in Part 101 of the Commission's Rules. Under our current rules, any such licensee filing a modification application in accordance with this Report and Order will be required to implement any license changes granted by the Commission not later than 18 months after the date of such grant.¹²⁶ Because the incumbents are not authorized to provide service on a common carriage basis, their modification applications are not subject to the public notice and petition to deny requirements of Section 101.37 of the Commission's Rules.¹²⁷ Thus, applications for modification of an incumbent's license under the relocation procedure would be expedited.

¹²⁶ Section 101.63(a) of the Commission's Rules, 47 CFR § 101.63(a).

¹²⁷ 47 CFR § 101.37.

93. We conclude that the relocation option and the license modification procedure we adopt provide incumbent governmental and private business licensees in the middle 150 megahertz segment with a reasonable opportunity to continue their operations in a manner that is not unduly disruptive. We note that Sierra proposed that incumbent licensees in this segment could retune their equipment, rather than replace the equipment, to conform to the segmentation plan we adopt and operate in the two 75 megahertz bands.¹²⁸ Our relocation option provides them with this opportunity. Sierra further requests that, as a matter of equity, we require LMDS licensees to pay for the retuning or other costs that might be incurred by incumbent licensees from relocating within the band.¹²⁹ We adopted the segmentation plan based in part on Sierra's comments that the costs of adjusting equipment for a move within the band to these 75 megahertz segments would not be significant. Moreover, relocation to another spectrum band is an option. We will not require any compensation for relocation costs.

(5) Applications for New Authorizations and for Modifications or Renewals of Existing Licenses

94. We sought comment on whether we should accept any applications for new licenses or for modification and renewal of existing licenses under the existing 31 GHz rules, in light of the secondary nature of the protected status of incumbent licensees to LMDS. In Sierra's proposed band-sharing plan, the incumbent services would be entirely preserved in the segments of 75 megahertz at each end of the band and future growth would be permitted under the existing rules. All comments from proponents of 31 GHz, which are the traffic control interests, support Sierra's proposal and seek continued use of the band to expand existing operations or establish new services under the existing rules.

95. ITE and USDOT argue that 31 GHz radio links are being used in the development of ITS programs, which are expected to meet Federal traffic management goals at reduced costs over the next 20 years. They urge that we allow the continued use of these services and adopt the Sierra plan, which serves the public interest by protecting public agencies that have invested public funds in this technology and by promoting public safety.¹³⁰ Sunnyvale asserts that it developed 31 GHz equipment with Sierra over six years that is now available for traffic control systems to be used in ITS programs in furtherance of this Federal policy for improved traffic management.

¹²⁸ Sierra Reply Comments to *Fourth NPRM* at 9, 13.

¹²⁹ *Id.* at 9.

¹³⁰ ITE Letter of Sept. 6, 1996; USDOT Letter of Sept. 26, 1996.

It argues that this equipment is becoming popular, as endorsed by Topeka.¹³¹ Nevada DOT plans to implement a large traffic system in the Las Vegas area of 1 million population using 31 GHz equipment that it has funded. Palm Springs, San Diego, and Topeka plan to expand outside existing areas, as do Long Beach and Honolulu.¹³²

96. IMSA and Sierra argue that, regardless of the outcome of this Report and Order, we should continue to accept new applications for 31 GHz licenses and, where LMDS is accorded primary protected status, new licenses could be subject to the risk of interference. IMSA, and Topeka as well, argue that we should grandfather incumbent licensees to provide protection and allow them to renew or modify their licenses to preserve the value of their investments in 31 GHz facilities.¹³³ Sierra argues that a freeze on applications is not supported by most LMDS proponents and would serve no purpose, and argues that we should at least permit users to squeeze what remaining value they can from their investments by renewing, modifying, expanding, or constructing new systems subject to LMDS interference in that case.¹³⁴

97. On the other hand, TI requests that we cease licensing new users in the 31 GHz band and that we do not grandfather existing users, inasmuch as they are secondary users that should not be elevated in status.¹³⁵ RioVision agrees. ComTech contends that applications could be allowed if we have accorded LMDS primary protected status and ensured that no interference will ensue, but is concerned that resources could be strained by trying to deal with the interference caused to LMDS by these operations.¹³⁶ HP asserts that further licensing could create confusion in the band.¹³⁷

98. We have carefully considered the advantages and disadvantages of allowing applications for new and expanded 31 GHz services under the existing rules, but conclude that any further growth and development of these services is inconsistent with the band-sharing plan we adopt. We have determined to designate all 300 megahertz for LMDS as necessary to fully accommodate the development and deployment of LMDS, based on comments. As TI and

¹³¹ Sunnyvale Comments to *Fourth NPRM* at 2-4.

¹³² See paras. 60-61, *supra*.

¹³³ IMSA Reply Comments to *Fourth NPRM* at 15-16.

¹³⁴ Sierra Comments to *Fourth NPRM* at 11-12; Sierra Reply Comments to *Fourth NPRM* at 8-10.

¹³⁵ TI Reply Comments to *Fourth NPRM* at 10-11.

¹³⁶ ComTech Comments to *Fourth NPRM* at 7-8.

¹³⁷ HP Comments to *Fourth NPRM* at 4.

WebCel confirm, the promise of LMDS is its significant broadband potential and any reductions in the proposed spectrum block would delay the development of important equipment and limit the ability of LMDS providers to offer very high bandwidth services.¹³⁸ Incumbents have acknowledged the inherent incompatibility of their services with LMDS, which is likely to deter interest in new services that have to share spectrum with such expanding and powerful systems. Expansion of 31 GHz services would likely have a chilling effect on the efforts of LMDS providers to establish and expand their services in response to consumer demand, seriously jeopardizing our objectives in designating the band for LMDS.

99. Under the band-sharing plan we adopt, government and private business incumbent licensees are protected to the fullest extent possible in order to preserve their existing operations. Taxpayer investments and the public benefits being derived from these described systems should not be jeopardized or diminished. While many of the comments address specific or general plans for future growth of traffic control systems, that cannot be accommodated under the plan because of the uncertainties of such plans in the face of the need for LMDS to develop and utilize the spectrum. As Nevada DOT and USDOT indicate, traffic control systems are being developed for a variety of bands and the technology is improving or changing rapidly.¹³⁹ It cannot be predicted that 31 GHz would continue to offer the best technology, or that LMDS technology would not be developed to suit some of these incumbent services. Moreover, LMDS supporters indicated a desire to accord access to their spectrum, either through leasing or other means through which similar traffic control systems could grow.¹⁴⁰ On balance, we find the benefits of allowing the expansion of incumbent licensees are outweighed by the harms to LMDS licensees of any future growth of existing 31 GHz services.

100. Given these considerations, we conclude that it is in the public interest, and in the interest of all of the parties, to dismiss any pending applications. A review of our database reflects that there are several pending applications, all of which were filed after the release date of the *Fourth NPRM* and by new applicants not currently licensed. Thus, these applicants were on notice that the Commission was considering a change in our rules for the 31 GHz band. Three of the pending applicants with several applications are the State of Nevada and the Cities of Las Vegas and North Las Vegas.¹⁴¹ Although Sierra submits a list identifying 13 large installations

¹³⁸ TI Comments to *Fourth NPRM* at 4-5; WebCel Reply Comments to *Fourth NPRM* at 19.

¹³⁹ Nevada DOT Letter of Sept. 5 at 2; USDOT Letter of Sept. 26.

¹⁴⁰ CellularVision Comments to *Fourth NPRM* at 5; Endgate Reply Comments to *Fourth NPRM* at 1.

¹⁴¹ Non-governmental applicants are included in the remaining applicants and they will be refunded their filing fees, which governmental entities do not pay.

that it claims are pending, only the Las Vegas installations are included in our records as having applications.¹⁴²

101. In its comments, Nevada DOT has demonstrated that these pending applications are for radio links that are an integral part of its traffic signal control system for the large metropolitan area around Las Vegas, which has been underway for several months. We recognize that our dismissal may create unexpected disruptions and expenses with respect to implementing this plan and achieving its traffic management goals for the area. On the other hand, these consequences would be less than the impact of expanding LMDS operations over such a system after it were fully implemented. Our obligation is to allocate the Nation's natural resource of its spectrum for the most effective and efficient use. It has been demonstrated that, in comparison with the technology and demand for the kinds of services in LMDS, the extent to which the incumbent 31 GHz services have used this nationwide spectrum over the past 12 years in which it has been available is minimal. Given the rapidly changing marketplace and technology, Nevada DOT may well have access to other technologies that equally suit its needs, while it has been spared the unnecessary expense of implementing a system for which the future is at best uncertain.

102. We permit incumbent licensees to renew their licenses in order to maintain their operations. We also permit them to continue to plan and conduct their operations to the full extent permitted under the current terms of their licenses, so long as they do not expand or increase these operations. Non-LTTS incumbent licensees are licensed either on a point-to-radius basis, which establishes a radius of operations, or a point-to-point basis, which is linear. To stay within their existing service parameters, the radius licensees may add links within the outer bands, as long as they do not go outside the radius. The point-to-point licensees are engaged in fixed operations provided by radio links between two points. They may not add additional links and are limited to whatever frequency pairs now exist. With regard to LTTS licensees, we have pointed out that LTTS is authorized nationwide without any designation of points to serve short-term immediate needs.¹⁴³ LTTS operations in existence on or after the date our rules take effect may continue those services, as well, but may not expand those services nor initiate new operations.

103. In these circumstances, we find that the kind of modifications that incumbent licensees may make to their licenses must be limited to ensure that they do not expand their operations. Accordingly, we will not allow the filing of applications to modify under Sections 101.57 and 101.59, because the modifications listed there include changing power, sites, and other service aspects that could alter operations considerably and create additional problems for LMDS. Section 101.61 provides for modifications that do not require prior authorization and

¹⁴² Sierra *Ex Parte* Letter of Sept. 10, 1996, Attachment at 2.

¹⁴³ See para. 55, *supra*.

allow for the replacing of equipment, as well as other changes, that would provide incumbents with the flexibility to manage existing operations without expanding. We amend Section 101.57 to exclude incumbents.

(6) Rules

104. We modify the rules for the licensing of 31 GHz services in order to eliminate future licensing and provide for the continuation of existing services under the band-sharing plan we have adopted. As we have indicated, all incumbent licensees are governed by Part 101 of our rules. Inasmuch as no licensees are authorized under Parts 74, 78, and 95, we delete the provisions at Sections 74.602(h), 78.18(a)(5), and 95.1(b) that authorize the assignment of the 31 GHz band for the services in those Parts, and make any other conforming amendments to those Parts.¹⁴⁴

105. As for Part 101, we amend the separate rules in Subpart J for LTTS by deleting the 31 GHz band as a band available for assignment in Sections 101.803(a), 101.803(d), and 101.803(e).¹⁴⁵ The technical rules for Part 101 that establish frequency availability, coordination procedures, tolerances, bandwidth, transmitter power limitations, and frequency assignments are further amended to delete the 31 GHz band as available for assignment and to preserve for all incumbent licensees their access to the entire band, subject to renewal.¹⁴⁶ The amendments provide for the sharing plan for 31 GHz by placing all incumbent licensees in a secondary status to LMDS in the middle 150 megahertz band. As for the outer segments of 75 megahertz, LTTS incumbent licensees remain in a secondary status to LMDS while non-LTTS incumbent licensees and LMDS licensees are equally protected from harmful interference.

g. Application of NEPA

¹⁴⁴ 47 CFR §§ 74.602(h), 78.18(a)(5), 95.1(b).

¹⁴⁵ 47 CFR §§ 101.803(a), 101.803(d), 101.803(e).

¹⁴⁶ 47 CFR §§ 101, 103, 107, 109, 113, 147.

106. Both Sunnyvale and IMSA¹⁴⁷ also contend that the National Environmental Policy Act of 1969 (NEPA)¹⁴⁸ and Section 1.1307(c) of the Commission's Rules,¹⁴⁹ require that we prepare an Environmental Impact Statement (EIS) prior to making a decision on the 31 GHz spectrum proposal set forth in the *Fourth NPRM*. They argue that the 31 GHz band is currently used by governmental licensees for traffic video cameras and traffic signal controls, in part, to reduce automobile idling time and consequent air pollution, and that these uses must be preserved in order to facilitate these entities' compliance with Congressionally-mandated air quality standards. These commenters claim that our proposal to designate the 31 GHz spectrum for LMDS, will have a "significant impact on the quality of the human environment," requiring an evaluation of that impact and consideration of alternative proposals, pursuant to Section 102 of NEPA and Section 1.1307(c) of the Commission's Rules.

107. We believe that the LMDS licensing plan, as modified and adopted in this Order, does not constitute a major Federal action that will significantly affect the quality of the human environment, and thus does not require the preparation of an EIS under Section 102 of NEPA.¹⁵⁰ We have been persuaded by the comments that traffic control systems are an important category of incumbent services, and thus we have taken several measures to mitigate the impact of our 31 GHz plan on such services. Specifically, we have declined to adopt the proposal in the *Fourth NPRM* for use of the 31 GHz band, which gave rise to the concerns expressed by Sunnyvale and IMSA. Instead, we have permitted the continued operation of traffic monitoring and control systems by incumbent licensees in this band. We thus believe that the adopted LMDS licensing plan does not trigger NEPA, in that the licensing plan (1) maintains the *status quo* by allowing governmental and private business incumbent licensees to expand their operations to the full extent permitted under the terms of their present licenses and to renew those licenses, according to their original terms and parameters, in order to maintain their operations; and (2) does not alter or further impact the environment in any way.¹⁵¹ Furthermore, as detailed below, alternative

¹⁴⁷ Sunnyvale Comments to *Fourth NPRM* at 5-7; IMSA Reply Comments to *Fourth NPRM* at 5-10. See also Nevada DOT Letter of Sept. 5 at 3-4; MSAPRC Comments to *Fourth NPRM* at 2-3. In addition to traffic signal interconnection, both the City of San Diego and Sunnyvale contend that use of the 31 GHz band is imperative for implementing traffic management systems relying on the rapid transmission of data, such as Intelligent Transportation Systems. San Diego Comments to *Fourth NPRM* at 1; Sunnyvale Comments to *Fourth NPRM* at 1.

¹⁴⁸ NEPA, 42 U.S.C. §§ 4321-4335.

¹⁴⁹ 47 CFR § 1.1307(c).

¹⁵⁰ 42 U.S.C. § 4332(2)(C).

¹⁵¹ See *Douglas County v. Babbitt*, 48 F.3d 1495, 1505 (9th Cir. 1995), *cert. denied*, 116 S.Ct. 698 (1996)(Secretary of Interior's action designation of a critical habitat under the Endangered Species Act did not trigger NEPA because the action neither changed the *status quo*, nor altered the physical environment); *Committee for Auto Responsibility v. Solomon*, 603 F.2d 992, 1000 (D.C.Cir. 1979)(GSA's action in leasing an existing parking facility did

measures and technologies exist that will enable the expansion of current operations by governmental entities that hold existing licenses, as well as allow the introduction of such systems by other governmental entities.¹⁵²

108. We have considered alternative band sharing plans developed by several parties, which they contend will allow LMDS and incumbent services to coexist, and we have adopted some of the principal components of these plans.¹⁵³ We rejected CellularVision's proposal to allocate two 25 megahertz segments in the 31 GHz band for incumbent use because we were convinced by Sierra that such a plan would have allocated insufficient spectrum to avoid intra-system interference in certain traffic control systems.¹⁵⁴ Under the 31 GHz plan adopted, all incumbent licensees retain the use of the 31 GHz band, while the governmental and private business licensees additionally are accorded protection in the two outer 75 megahertz segments from harmful interference from LMDS. The governmental and private business incumbent licensees presently operating in the middle 150 megahertz segment of the band and accorded secondary status with respect to LMDS in that segment have the option of relocating to the 75 megahertz segments where they, too, will be entitled to protection from harmful interference from LMDS. We believe that, under this plan, the traffic monitoring and traffic signal control functions that Sunnyvale and others contend are vital to the environment can be maintained in the band at their current levels, while allowing us to designate additional spectrum for LMDS.

109. The action we are taking allows the governmental and private business incumbent licensees to expand their operations to the full extent permitted under the terms of their present licenses and to renew those licenses, according to their original terms and parameters, in order to maintain their operations. This plan preserves the *status quo*. Under our plan, incumbent governmental licensees are authorized to continue using 31 GHz spectrum to operate traffic

not trigger NEPA because the action did not in any way further degrade air quality attributed to vehicular air pollutants and thus did not change the *status quo*); *see also* Sabine River Authority v, U.S. Department of Interior, 951 F.2d 669, 679 (5th Cir. 1992), *cert. denied*, 113 S.Ct. 75 (1992)(Fish and Wildlife Service's acquisition of a conservation easement on a wetlands habitat, which precluded the State's development of a reservoir to meet its anticipated water supply needs, did not trigger the requirement for an EIS under NEPA because the Service's action neither changed the *status quo*, nor effectuated any change in the physical environment).

¹⁵² We need not address Sunnyvale's assertion that incumbents had a reasonable expectation that they could continue to use (and, presumably, to increase their use of) the 31 GHz band to meet their traffic control and air quality objectives. Incumbents' licenses were issued pursuant to reduced coordination requirements, in return for which incumbents accepted licenses conferring reduced protection from harmful interference and assumed the risk of interference with present as well as future use. *See Spectrum Utilization Second Report and Order*, at para. 10.

¹⁵³ See paras. 79-103, *supra*.

¹⁵⁴ See paras. 74-75, 80-82, *supra*.

monitoring and control systems. The viability and usefulness of these systems is thus being preserved by the rules and procedures we adopt in this Order.

110. We have considered the significance of our decision to prohibit incumbents from seeking modifications to their present licenses in order to expand their operations beyond the scope permitted by those licenses. Incumbents hold either one of two types of licenses. One type of license specifies the coordinates of both the transmitting and the receiving stations, and limits operations to those stations. The second articulates the scope of licensed operations in terms of an area of operations.¹⁵⁵ Our band sharing plan will necessarily have a greater impact upon those incumbents holding point-to-point licenses. Under the terms of the plan we are adopting, incumbents with service area licenses will be permitted to add more transmitting and receiving stations to their current operations, so long as those additions do not exceed the service area boundaries, power levels, or other specifications set forth in the license. Point-to-point licensees, on the other hand, will be limited to the scope of their presently licensed operations and will not be authorized to obtain additional point-to-point licenses.

111. Although our present approach does not permit governmental licensees to expand their traffic monitoring and control operations through more extensive use of 31 GHz spectrum acquired by applications for point-to-point licenses, we emphasize that *current* operations are not disturbed by this limitation, such that the protection and preservation of the environment resulting from these governmental traffic systems will continue on the same basis and to the same extent as they do today. Thus, we conclude that our plan, taken as a whole, will occasion minimum disruption for most incumbent governmental operations.

112. We also note that a question exists whether there is sufficient causal connection between our LMDS licensing decision and ambient air quality to say that our actions in this proceeding could be the "proximate cause" of any impact on the human environment. We note that, under the present licensing scheme, an incumbent governmental licensee's expansion of its traffic monitoring systems and a new governmental applicant's ability to use the 31 GHz spectrum for such functions, are contingent upon their applying for and being granted a license. Furthermore, the removal of this opportunity cannot be said to be the proximate cause of the vehicular and other pollution factors that have precluded their attainment of ambient air quality standards established under the Clean Air Act. Our action merely limits, to some extent, a governmental entity's choice of methodologies for addressing one source of pollution and consequent non-attainment -- vehicular pollution.¹⁵⁶

¹⁵⁵ *Spectrum Utilization Second Report and Order*, at para. 12.

¹⁵⁶ *See Metropolitan Edison Company v. People Against Nuclear Energy, United States Nuclear Regulatory Commission v. People Against Nuclear Energy*, 460 U.S. 766 (1983).

113. The number of incumbent licensees engaged in traffic control operations and thus affected by this limitation on incumbent expansion is small. Traffic control operations are provided by governmental licensees, of which there are a total of 19 spread across seven States. It appears from our database that less than half of these governmental licensees are authorized on a point-to-point basis. Of these, only four are located in non-attainment areas requiring plans to improve air quality in order to comply with the standards established by the Environmental Protection Agency.¹⁵⁷

114. A number of alternatives are available to these incumbents, if they wish to expand their operations. Specifically they could bid for and purchase the smaller, significantly less costly 150 megahertz license in the competitive bidding process we are establishing in this Order. They also could acquire the use of spectrum from an LMDS licensee through spectrum disaggregation or geographic partitioning of the LMDS license. Furthermore, they could transfer their operations to a different transmission medium, lease service or transmission capacity from a common carrier, or expand their wired traffic control systems.¹⁵⁸ These alternatives are also available to governmental entities that are not presently licensed in the 31 GHz band and whose applications to commence such service are barred by the action we take here today. These are significant factors when weighing the impact of a regulatory action on the environment.

115. In sum, we do not believe that the LMDS licensing plan, as modified and adopted herein, raises environmental concerns or otherwise affects incumbent governmental licensees' continued operation of traffic monitoring and control operations, or the air quality controls for which they are responsible. Current operations are not disturbed by our licensing plan, and the present level of air quality protection afforded by these operations is preserved. We believe that the impact of limiting the expansion of existing systems, and any resulting effect on air quality, is minimal -- very few governmental licensees will be affected, and most of these are not located in nonattainment areas. Furthermore, all of these licensees have recourse to some other option for monitoring and controlling traffic and minimizing air pollution.

B. Licensing of Spectrum

1. Number of Licenses per Geographic Area

a. Background; Comments

¹⁵⁷ Non-attainment areas are those areas designated by the Environmental Protection Agency (EPA) as being in non-compliance with those air quality standards established by EPA for various pollutants under the Clean Air Act, 42 U.S.C. §§ 7401 *et seq.* See Consolidated Non-Attainment Areas List, EPA, Dec. 3, 1996.

¹⁵⁸ We have licensed only 19 governmental entities that use the 31 GHz band for traffic control operations. Most of the Nation's metropolitan areas do not rely on wireless technology for their traffic control systems.

116. In the *First NPRM*, *Third NPRM* and *Fourth NPRM* we sought comment on the number of LMDS licenses we should authorize in each geographic licensing area. In the *First NPRM*, we proposed to designate 1,000 megahertz in the 28 GHz band for LMDS and, based on the existing technology, proposed that the 28 GHz band be licensed in two blocks of 1,000 megahertz each to two different carriers.¹⁵⁹ In the *Third NPRM* we proposed that 150 megahertz of the 1 gigahertz in the 28 GHz band be licensed on a co-primary basis with MSS feeder links and sought comment on the number and size of licenses to make available in light of the proposed change in designation.¹⁶⁰ We had noted that LMDS may be competing in a multichannel video programming distribution market (MVPD) that is dominated by cable television, but that is poised for the entry of several alternative distribution technologies, and sought comment on whether, from a competitive standpoint, it would be advisable to authorize only one LMDS license for 1,000 megahertz in each market.¹⁶¹ We also asked whether the advent of digital technology should affect our assessment of the minimum amount of spectrum needed by a licensee to compete in the MVPD environment.¹⁶² We discussed alternative licensing schemes, and sought comment on the specific spectrum amounts that would be required, were we to decide to license more than one LMDS provider in each market.¹⁶³

117. In the *First Report and Order*, we adopted our proposal to designate the 1,000 megahertz in the 28 GHz band for LMDS and to require that 150 megahertz be shared on a co-primary basis with MSS feeder links. Specifically, LMDS was accorded the primary designation in the 850 megahertz located in the 27.5-28.35 GHz segment, while the segment of 150

¹⁵⁹ *First NPRM*, 8 FCC Rcd at 560 (para. 20).

¹⁶⁰ *Third NPRM*, 11 FCC Rcd at 82 (paras. 74-76).

¹⁶¹ *Id.* at 82-83 (paras. 77-78). We observed that the MVPD market includes cable operators, Direct Broadcast Satellite (DBS) providers, wireless cable systems, and satellite master antenna television systems. *Id.* We also observed that LMDS "may provide services that compete with local exchange carriers in the provision of local exchange service . . ." *Id.* at 64 (para. 27). We based our assumptions regarding the ability of LMDS to provide competition in both local telephony and cable markets on the following factors:

Hub transceivers create small cells, typically of six miles diameter, which transmit to subscriber locations, and which can receive subscriber transmissions on a return path. Because the cells are small, and arranged in a typical cellular pattern, a very high level of frequency reuse is possible. This pattern, combined with the availability of broadband microwave spectrum, results in sufficient capacity in the proposed LMDS system designs to provide wireless competition to local exchange carriers or cable television systems even in urban areas.

¹⁶² *Id.* at 83 (para. 78).

¹⁶³ *Id.* at 83 (para. 79).

megahertz at 29.1-29.25 GHz in the band is shared on a co-primary basis and limited to LMDS hub-to-subscriber transmissions.¹⁶⁴ Because of the encumbrance of the 150 megahertz, we proposed to designate an additional 300 megahertz of spectrum on a primary protected basis in the 31 GHz band for LMDS. We sought comment on how to assign this additional spectrum and whether to treat it as a separate block or combine it with spectrum in the 28 GHz band to be assigned as a single block. We tentatively concluded to assign the proposed 31 GHz band and the designated spectrum in the 28 GHz band as a single license block.¹⁶⁵

118. The majority of parties responding to our initial inquiry in the *Third NPRM* argue that if LMDS providers do not receive a sufficient amount of spectrum, they cannot provide competitive services in either the MVPD marketplace or in the local telephony marketplace.¹⁶⁶ Many of these commenters contend that approximately 1,000 megahertz of spectrum is the minimum amount necessary to create a commercially viable system that will enable LMDS licensees to compete with "wired" cable television systems and other MVPD providers.¹⁶⁷

119. Because, in the *First Report and Order*, 150 of the 1,000 megahertz in the 28 GHz band was allocated on a co-primary basis with MSS and LMDS subscriber-to-hub transmissions were precluded in this segment, many of these commenters and others support our proposal to designate the entire 300 megahertz in the 31 GHz band to LMDS and to auction it with the 1,000 megahertz at 28 GHz as a single license block. They reason that this will enable LMDS providers to take full advantage of technical innovation and offer the full panoply of services to respond to marketplace needs.¹⁶⁸ No commenter focuses on or explains why it would be necessary to assign

¹⁶⁴ *Fourth NPRM*, at para. 97.

¹⁶⁵ *Fourth NPRM*, at paras. 95, 101.

¹⁶⁶ Bell Atlantic Comments to *Third NPRM* at 1-2; BellSouth Comments to *Third NPRM* at 6; CellularVision Comments to *Third NPRM* at 13-18; ComTech Comments to *Third NPRM* at 5; Endgate Comments to *Third NPRM* at 4; GEC Comments to *Third NPRM* at 2; HP Comments to *Third NPRM* at 5-6; M3ITC Comments to *Third NPRM* at 3; NorTel Comments to *Third NPRM* at 3-4; PTWBS Comments to *Third NPRM* at 1-2; TI Comments to *Third NPRM* at 15; Titan Comments to *Third NPRM* at 2-3.

¹⁶⁷ See, e.g., CellularVision Comments to *Third NPRM* at 14; Endgate Comments to *Third NPRM* at 4-5; GEC Comments to *Third NPRM* at 2; HP Comments to *Third NPRM* at 5; PTWBS Comments to *Third NPRM* at 1-2; M3ITC Comments to *Third NPRM* at 3; TI Comments to *Third NPRM* at 15; Titan Comments to *Third NPRM* at 2-3. TI states that their digital system requires a minimum of 1,000 megahertz to provide a full range of video distribution and telephony services.

¹⁶⁸ See, e.g., CellularVision Comments to *Fourth NPRM* at 9-10; ComTech Comments to *Fourth NPRM* at 5-6; HP Comments to *Fourth NPRM* at 4-5; RioVision Comments to *Fourth NPRM* at 2; HP Reply Comments to *Fourth NPRM* at 3; M/A-COM Reply Comments to *Fourth NPRM* at 4; Titan Reply Comments to *Fourth NPRM* at 2. CellularVision argues that licensing LMDS spectrum in smaller blocks could needlessly confine LMDS to a particular frequency plan,

all 300 megahertz (rather than 150 megahertz) to a single licensee, in order to compensate for the encumbered nature of the 150 megahertz in the 28 GHz band.

120. Bell Atlantic points out that a few parties seek to use the designated spectrum in smaller blocks. It notes that some, such as Emc³, seek to use this spectrum for "niche products," while others, such as NYNEX and WCA, seek to supplement their Multipoint Distribution Service (MDS) spectrum.¹⁶⁹ In addition to Emc³, NYNEX, and WCA, several other parties advocate segmenting the LMDS spectrum to create smaller blocks. For example, Ad Hoc RTG, PRTC, and WCA support our proposal to designate spectrum in the 31 GHz band for LMDS but maintain that the 31 GHz block should be licensed as a separate unit in each LMDS service area.¹⁷⁰ These parties contend that licensing the 31 GHz band as a separate block would facilitate market entry by a greater number of LMDS providers and would increase market competition.

121. Should the Commission decide otherwise, however, Ad Hoc RTG requests that the Commission afford rural telephone companies and other designated entities bidding credits and installment plans, as in previous auctions, as a means of facilitating market entry by a greater number of LMDS providers.¹⁷¹ WCA recommends, as an alternative, that LMDS auction winners be authorized to disaggregate their spectrum.¹⁷² As we have discussed, Sierra states that governmental licensees' vehicle control operations presently requiring 200 megahertz of capacity could be conducted using only 150 megahertz of spectrum, with modifications to existing equipment that would require only modest financial investments by these licensees.¹⁷³

122. Commenters also addressed the issue of smaller license blocks in the context of our inquiry in the *Third NPRM* about the relevance of impending digital technology in formulating a spectrum plan for LMDS. NYNEX and others argue that, with the advancement of digital technology, assignments of less than 1,000 megahertz of spectrum per licensee can be channelized

thereby impeding the development of the service. CellularVision Comments to *Fourth NPRM* at 10, n.16.

¹⁶⁹ Bell Atlantic Reply Comments to *Third NPRM* at 6.

¹⁷⁰ Ad Hoc RTG Comments to *Fourth NPRM* at 7-8; PRTC Comments to *Fourth NPRM* at 4; WCA Comments to *Fourth NPRM* at 3-4.

¹⁷¹ Ad Hoc RTG Comments to *Fourth NPRM* at 8.

¹⁷² WCA Comments to *Fourth NPRM* at 5. See also Ad Hoc RTG Comments to *Fourth NPRM* at 8.

¹⁷³ *Ex Parte* Sierra Letter of Sept. 10 at 2. See paras. 82-83, *supra*.

into viable commercial operations.¹⁷⁴ Emc³ argues that the 1,000 megahertz of spectrum proposed for LMDS under the *Third NPRM* band plan could be divided into four licenses of 212.5 megahertz each within the 27.5-28.35 GHz band, and three licenses of 50 megahertz each within the 29.1-29.25 GHz band.¹⁷⁵ According to Emc³, as little as 150 megahertz of spectrum could be used to provide a commercially viable communications service by using digital technology; thus, the Commission should not support the inefficient use of spectrum for LMDS by giving access to the full amount of LMDS spectrum for analog technology.¹⁷⁶

123. GTE contends that, with the advent of digital technology, the optimum LMDS licensing structure would be two equal, unaffiliated licensees in each market, with each licensee having a primary assignment of 425 megahertz in the 27.5-28.35 GHz band and 75 megahertz of co-primary assignment in the 29.1-29.25 GHz band.¹⁷⁷ WCA contends that the Commission could license three LMDS providers per geographic service area, with two 425 megahertz licenses and one 150 megahertz license. WCA opposes establishing a single LMDS licensee per market because it argues that this could effectively preclude certain services that are only economically viable if the provider can acquire authorizations for less bandwidth.¹⁷⁸

124. The majority of commenters, however, urge the Commission to refrain from basing our LMDS licensing plan on the development and impending availability of digital LMDS technology. These commenters argue that digital technology is not available in the near term, and that approximately 1,000 megahertz per licensee is thus required in order to enable an analog LMDS system to compete with incumbent MVPD providers and one-way and two-way voice and data subscriber-based service providers.¹⁷⁹ Commenters also argue that even if digital LMDS,

¹⁷⁴ See, e.g., Emc³ Comments to *Third NPRM* at 4-6; GTE Comments to *Third NPRM* at 4-5; NYNEX Reply Comments to *Third NPRM* at 6-10.

¹⁷⁵ According to Emc³, the four 212.5 megahertz licenses would be ideal for broadband video, telephony, and data services, and the three 50 megahertz licenses could be used to provide return path communications from subscribers, or they could be used for narrowband voice and data services to consumers. Emc³ Comments to *Third NPRM* at 6-7.

¹⁷⁶ Emc³ Reply Comments to *Third NPRM* at 3.

¹⁷⁷ In addition, GTE opposes allowing a party holding one of the two LMDS licenses in a market to own a material interest in the other license in the same market. GTE Comments to *Third NPRM* at 3-4.

¹⁷⁸ WCA argues, for example, that awarding multiple licenses per market would enable a multipoint, multichannel distribution system operator to meet a need for telephony, while still leaving spectrum for another multichannel video or wireless telephony provider. WCA Comments to *Third NPRM* at 5.

¹⁷⁹ See, e.g., CellularVision Comments to *Third NPRM* at 14-17; ComTech Reply Comments to *Third NPRM* at 2-3; GEC Reply Comments to *Third NPRM* at 1; M3ITC Comments to *Third NPRM* at 3; TI Reply Comments to *Third NPRM* at 13.

once available, becomes as efficient as other digital technologies, LMDS providers will still need at least 1,000 megahertz to compete in the cable and local telephony environments, because the use of digital technology by competitors will also increase these competitors' spectrum capacity.¹⁸⁰ CellularVision argues that even if digital technology may prove ultimately to be appropriate for certain applications of LMDS, analog technology may remain most appropriate for other applications of LMDS.¹⁸¹

b. Decision

125. For the reasons discussed in the following paragraphs, we have decided that LMDS potential can be exploited most effectively by assigning the 1,300 megahertz designated for LMDS in two licensing blocks. We base this decision in part on our conclusion that LMDS spectrum promises significant versatility as a vehicle for increasing competition in the telephony and cable programming markets, and has the capacity to meet the more circumscribed needs of smaller operators and niche markets. We will issue one license for 1,150 megahertz, consisting of the 1,000 megahertz located in the 28 GHz band and 150 megahertz located in the center of the 300 megahertz segment of the 31 GHz band. We also will issue an additional, smaller license for 150 megahertz, located entirely in the 31 GHz band and consisting of the two 75 megahertz segments located at each end of the 300 megahertz block. LMDS licensees in the smaller block will have to protect certain incumbent operations that exist in some localities under the band-sharing plan we have adopted in this Report and Order.¹⁸²

126. As discussed later in this Report and Order, we adopt our proposal to base licensing on the 493 geographic areas known as BTAs and to simultaneously auction the two licenses in each BTA. We conclude that establishing both a 1,150 megahertz and a 150 megahertz LMDS license in each BTA is the most effective way to promote the public policy goals and objectives of this proceeding. Our principal goal in this rulemaking has been to increase the potential for more competition in the video programming and telephony markets. The promotion of competition is the surest means of serving consumers through the delivery of an array of offerings that is responsive to consumer demand for feature-rich video and telecommunications services marked by high quality and reasonable prices.

¹⁸⁰ See, e.g., CellularVision Comments to *Third NPRM* at 16-17, n. 23. CellularVision states that LMDS is constrained to use "near constant envelope" modulation techniques such as Quadrature Phase Shift Keying (QPSK), while cable television's more benign operating environment enables it to use the more complex 64 Quadrature Amplitude Modulation (QAM). It also maintains that 425 megahertz of cable spectrum could support 200 to 400 video channels, while 425 megahertz of LMDS spectrum could support only about 50 to 200 channels. See also ComTech Comments to *Third NPRM* at 5; GEC Comments to *Third NPRM* at 2; TI Reply Comments to *Third NPRM* at 11-13.

¹⁸¹ CellularVision Reply Comments to *Fourth NPRM* at 11, n.16.

¹⁸² See para. 39, *supra*.

127. We agree with those commenters favoring a minimum of 1,000 megahertz of contiguous spectrum, or its equivalent, for an LMDS license and believe that the creation of a 1,150 megahertz LMDS license in each BTA achieves this goal. The addition of 150 megahertz in the 31 GHz band will compensate for the use restriction imposed on 150 megahertz in the 28 GHz band that will be licensed to both LMDS and satellite services on a co-primary basis. This increase in capacity should assist LMDS licensees in developing two-way services that will make them viable entrants in the MVPD, voice, and data telecommunications marketplaces.

128. The creation of an additional 150 megahertz license in each BTA will also provide benefits to consumers and other members of the public. One possibility would be for the 150 megahertz license to be acquired by the same entity as the 1,150 megahertz license. This would accommodate the desire of commenters advocating that the Commission should assign one 1,300 megahertz license. Alternatively, each license in a market could be acquired by a separate entity. Commenters claim that a license of smaller bandwidth would have the benefit of providing for smaller operators, development of niche markets, and provision of services that would only be economically viable under cheaper, narrower bandwidth licenses.

129. In addition to those benefits cited by commenters, we assign the spectrum for the 150 megahertz license from the outer segments of the 31 GHz band in order to reflect the band-sharing plan we have adopted for 31 GHz and ensure our objectives are achieved. The smaller license will allow us to accommodate more easily the ability of incumbent governmental and private business licensees to continue their existing operations in that spectrum segment on a protected basis, while minimizing any potential disruption to larger LMDS operations in the 1,150 megahertz block. We consider this minimization of disruptions to LMDS operations to be an important aspect of achieving our goal of increasing competition in the MVPD, voice, and data telecommunications marketplaces. Under our band-sharing plan, incumbent governmental and private business licensees presently using the 31 GHz band would have interference protection from the holder of the smaller, 150 megahertz license, but would be accorded no protection from interference by the operator holding the 1,150 LMDS license for that BTA.¹⁸³ Moreover, the smaller license should make it easier for any incumbent licensee or entity interested in continuing to have access to the 31 GHz band for incumbent services to acquire a license for the redesignated spectrum under the LMDS licensing rules.

130. In adopting this licensing plan, we generally agree with those commenters who contend that the future development and availability of digital LMDS equipment should not be a determining factor in limiting the spectrum available to each LMDS licensee. Commenters demonstrate that digital LMDS equipment is not commercially available for LMDS operations on

¹⁸³ See paras. 85-86, *supra*.

the 28 GHz spectrum, and is not yet developed for the 31 GHz spectrum.¹⁸⁴ In designating the 31 GHz band for LMDS, we noted that, although developers of LMDS technology expect to make the 31 GHz band readily accessible for LMDS use, they seek the regulatory certainty of our authorizing implementation of LMDS before fully committing the resources necessary to develop commercially viable applications of spectrum.¹⁸⁵ It would not be in the public interest to preclude LMDS licensees from using immediately available equipment by limiting too strictly the amount of spectrum available to an LMDS licensee using analog equipment. However, we believe that the advent of digital technology does provide support for creating a second, smaller license for each service area. A 150 megahertz LMDS license could provide a less costly, hence more easily accessible, forum for operators wishing to experiment with the use of digital technology in LMDS. Creating such an opportunity would encourage the development of more efficient equipment that might provide greater service to the public. We believe that our creation of two licenses of unequal size accommodates these concerns and objectives.

131. Comments addressing the issue of eligibility raised in the *Fourth NPRM* are also relevant to this licensing issue.¹⁸⁶ Ad Hoc RTG points out that the high cost of deploying fiber and coaxial cable in remote areas makes LMDS the most likely alternative for video and telephone services in rural areas.¹⁸⁷ NTCA points out that rural areas can be expected to be the last to receive video programming services from large LMDS providers, however, because the large size of BTAs will enable LMDS licensees, other than rural LECs, to "neglect" rural areas until late in the license term.¹⁸⁸ The Alliance makes a similar claim with respect to the provision of vital services such as voice, data, two-way video, teleconferencing, telemedicine, telecommuting and

¹⁸⁴ Established wireless services providing video programming services in competition with cable services are beginning to increase their use of digital technologies and digital transmission, which we have found is another key strategy for increasing communications capacity and is not fully developed. Annual Assessment of the Status of Competition in the Market for the Delivery of Video Programming, CC Docket No. 96-133, Third Annual Report, FCC 96-496, released Jan. 2, 1997, at paras. 62-64, 176-177 (*1996 Cable Competition Report*).

¹⁸⁵ See para. 41, *supra*. See Titan Reply Comments to *Fourth NPRM* at 1.

¹⁸⁶ See paras. 152-156, *infra*.

¹⁸⁷ Ad Hoc RTG makes this point in support of its argument that barring rural telephone companies from participation in LMDS would thus contravene Sections 309(j)(3)(A) and 309(j)(3)(B) of the Communications Act, which ensure that services are made available to rural areas and requires that rural telephone companies have an opportunity to participate in providing new wireless telecommunications services. Ad Hoc RTG Comments to *Fourth NPRM* at 5-7. See also Farmers Tel Comments to *Fourth NPRM* at 2-3; NTCA Comments to *Fourth NPRM* at 3-5.

¹⁸⁸ NTCA Comments to *Fourth NPRM* at 2.

global networks in rural areas.¹⁸⁹ These comments provide additional support for creating a second, relatively small license for each BTA, as a less-costly vehicle for providing vital telecommunications services to rural areas that might be "neglected" by larger LMDS providers attempting to recoup, as rapidly as possible, the significant investments that acquisition of a 1,150 megahertz license will require.

2. Size of Geographic Service Areas

a. Background; Comments

132. In the *Third NPRM*, we discussed the comments received on the proposal in the *First NPRM* that we license LMDS based on Rand McNally Commercial and Marketing Guide BTAs, and tentatively concluded that BTAs continue to appear to be the best geographic areas for licensing LMDS.¹⁹⁰ We tentatively concluded that there is a reasonable likelihood that LMDS services will have a local focus, and that BTA service areas would best approximate the likely scope of LMDS services.¹⁹¹ We proposed to use the 487 BTAs identified at that time by Rand McNally, but to exclude from the New York BTA the area currently served by CellularVision, and to add as additional areas for licensing the United States territories and possessions over which we have jurisdiction: the Virgin Islands, American Samoa, Guam, Puerto Rico, and the Commonwealth of Northern Marianas.¹⁹²

133. The majority of commenters believe that using BTAs as geographical service areas will result in greater economies of scale and that they best approximate the service markets to be

¹⁸⁹ The Alliance also contends that rural telephone company participation in LMDS should be encouraged by adopting a use-or-lose, fill-in policy similar to that adopted for cellular unserved areas, under which license renewal applications would be limited only to those areas served, and by granting rural telephone companies a right of first refusal to negotiate for partitioned spectrum in their service areas and restricting the amount charged to a *pro rata* share of the original winning bid, on a per population (POP) basis. Alliance Reply Comments to *Fourth NPRM* at 6-8. In apparent agreement with the underlying premise concerning access in rural communities, CPI contends that the needs of consumers served by rural telephone companies and incumbent cable operators (ICOs) can nevertheless be served by allowing the LMDS licensee to enter contractual arrangements with the rural incumbent LEC or rural ICO. CPI Reply Comments to *Fourth NPRM* at 9-10.

¹⁹⁰ *Third NPRM*, 11 FCC Rcd at 84-85 (paras. 82-87).

¹⁹¹ *Id.* at 85 (para. 87).

¹⁹² *Id.* at 85-86 (para. 88).

offered.¹⁹³ WCA argues that the desire of wireless cable operators to incorporate LMDS licenses into their systems will be enhanced by establishing BTAs as LMDS service areas. ComTech supports our proposal to use BTAs, stating that these areas are manageable in size for small businesses and that using these areas will increase the likelihood that rural areas will receive service more quickly. PTWBS argues that there should be no restrictions on the number of BTAs a licensee may obtain at auction.

134. Several commenters, however, support the use of Metropolitan Statistical Areas ("MSAs") and Rural Service Areas ("RSAs") as LMDS service areas, because they represent manageable territories within which to initiate service.¹⁹⁴ GTE argues that by basing LMDS licenses on smaller areas, an entity that has an economic reason to expand its area may do so either through the auction process or through post-auction transactions. According to M3ITC, larger market areas will serve to eliminate or disqualify entrepreneurs wishing to enter the LMDS industry because the financial requirements to provide service in them will be greater.

b. Decision

135. We adopt our proposal to license LMDS based on BTA geographic service areas in the *1992 Commercial Atlas and Marketing Guide* published by Rand McNally, that identifies 487 BTAs based on the 50 States.¹⁹⁵ We also adopt our proposal to add the six additional areas for licensing over which we have jurisdiction and which we will include as BTAs; namely, the U.S. Virgin Islands, American Samoa, Guam, San Juan, Puerto Rico, Mayaguez Puerto Rico, and the Northern Mariana Islands. While the total number of BTAs for licensing LMDS is 493, we will exclude the New York BTA in which CellularVision currently is licensed from the initial licensing of LMDS. The request of CellularVision for a pioneer's preference is subject to a peer review

¹⁹³ See, e.g., BellSouth Comments to *Third NPRM* at 7; Bell Atlantic Comments to *Third NPRM* at 4; CellularVision Comments to *Third NPRM* at 18; Emc³ Comments to *Third NPRM* at 7; Nortel Comments to *Third NPRM* at 12; PTWBS Comments to *Third NPRM* at 1; Titan Comments to *Third NPRM* at 4; TI Comments to *Third NPRM* at 16.

¹⁹⁴ See, e.g., GTE Comments to *Third NPRM* at 6; M3ITC Comments to *Third NPRM* at 3.

¹⁹⁵ Rand McNally is the copyright owner of the MTA/BTA Listings, which list the BTAs contained in each MTA and the counties within each BTA, as embodied in Rand McNally's Trading Area System MTA/BTA Diskette, and geographically represented in the map contained in Rand McNally's Commercial Atlas & Marketing Guide. The conditional use of Rand McNally's copyrighted material by interested persons is authorized under a blanket license agreement dated February 10, 1994, and covers use by LMDS applicants. This agreement requires authorized users of the material to include a legend on reproductions (as specified in the license agreement) indicating Rand McNally's ownership.

process we establish in this Report and Order¹⁹⁶ and issues concerning its license are pending the outcome of review.

136. We conclude that BTAs serve as logical geographic areas for licensing LMDS because they represent the natural flow of commerce, comprising areas within which consumers have a community of interest.¹⁹⁷ In terms of the MVPD marketplace, we believe that the MVPD market is no longer contained within the franchise area of local cable companies and will come to encompass larger markets, even as they retain local content.¹⁹⁸ In addition, the advent of wire and satellite broadband services has resulted in the expansion of regional and national markets for video programming. Our use of BTAs to license LMDS will enable LMDS licensees to have a more level playing field in this environment of market "regionalization," but it will also preserve the delivery of local programming and other LMDS services to the relevant market segments. MSAs and RSAs, which were used for licensing Cellular Service, are much smaller than recently adopted wireless geographic service areas, *e.g.*, MDS and PCS. Accordingly, we conclude that their use for licensing LMDS might result in an unnecessary fragmentation of natural markets. While simultaneous multiple round bidding would permit the consolidation of interdependent MSAs and RSAs, and licensees could acquire additional markets after the auction through the assignment and transfer process, we believe that these options may result in unproductive regulatory and transaction costs for the Commission and applicants. The use of BTAs alleviates these problems and ensures that LMDS providers can deliver services to the marketplace in a timely and efficient manner.

137. We expect that many LMDS providers will seek to provide one-way and two-way voice and data subscriber-based services over their systems in addition to providing video programming services. BTAs are a logical service area in which to provide such services for several reasons. First, we believe that most LMDS providers will seek to combine an array of video programming services with one-way and two-way telecommunications and data services in an effort to create packages of services that are competitive with those we expect to be offered by incumbent LECs and cable providers. By operating within BTAs, LMDS operators will be able to

¹⁹⁶ See para. 442, *infra*.

¹⁹⁷ Typically, a BTA includes a population center or centers, such as a large city or town, and the surrounding rural area. BTA boundaries are based on county lines because most statistical information relevant to marketing is published in terms of counties. The specific boundaries were drawn after a study of several factors, such as physiography, population distribution, economic activities, newspaper distribution, and transportation facilities.

¹⁹⁸ In the Third Annual Report on the state of competition in the market for the delivery of video programming, we noted that cable operators are merging and trading systems to create clusters, which has been attributed to a response to competitors and potential competitors that can operate on a regional basis. These regional groupings of cable systems under common ownership could permit operators to offer uniform packages at comparable prices throughout an area and to market their services accordingly. *1996 Cable Competition Report*, at paras. 137-139.

tailor their combined service offerings to compete effectively with cable and telecommunications services providers, because BTAs closely approximate areas where consumers have a community of interest.

138. Second, we agree with commenters that BTAs afford licensees greater economies of scale than smaller geographic service areas such as MSAs and RSAs. The ability to aggregate the cost of core networks required to provide one-way and two-way interactive services over LMDS systems allows LMDS providers to maintain a potential cost competitiveness with other technologies, such as hybrid fiber-coaxial cable facilities and high speed twisted pair transmission facilities. Third, given the cellular structure of LMDS systems, we believe that BTAs, each of which has a central, usually urban commercial center, are manageable from the standpoint of establishing a network capable of providing an array of competitive services.

139. Finally, we believe that BTAs represent reasonable building blocks for establishing an LMDS system capable of delivering an array of competitive services. BTAs vary in size, population, and demographics; therefore, we expect that there will be wide-ranging strategies for acquiring service areas. We expect that there will be prospective LMDS providers who wish to serve areas larger than the typical BTA, and we will not restrict the number of BTAs a licensee may acquire at auction. We also expect that there will be prospective LMDS providers with more limited business plans seeking a single BTA or a partitioned BTA.

3. Spectrum Disaggregation and Geographic Partitioning

a. Background; Comments

140. Observing that continued technological improvements may reduce the amount of spectrum required to provide a full range of services, we proposed in the *Third NPRM* that LMDS licensees be permitted to disaggregate their licenses. We asked commenters to address how a licensee would accomplish such disaggregation, and what rules the Commission should promulgate for licensing disaggregated spectrum.¹⁹⁹ We further requested parties to comment on whether designated entity licensees that receive bidding credits in the auction or permission to make installment payments should be permitted to disaggregate spectrum.

141. In addition, we sought comment on our tentative conclusion that geographic partitioning for any part of an LMDS licensing area would be in the public interest. We determined that the issue of geographic partitioning should be considered to enable LMDS licensees to recoup some of their initial licensing and construction costs, while providing a method for entities with specific local concerns or insufficient capital to purchase rights for the entire

¹⁹⁹ *Third NPRM*, 11 FCC Rcd at 83 (para. 80).

service area, to acquire a portion of the geographic area originally licensed. We also determined that geographic partitioning may allow some areas, particularly rural areas, to be served sooner than would otherwise be possible.²⁰⁰

142. In their comments, CellularVision, GTE, HP, Nortel, PTWBS, and TI support the Commission's proposal to permit the disaggregation of spectrum by LMDS licensees.²⁰¹ ComTech proposes specific limitations on disaggregated licenses, including the proposal that designated entities that received bidding credits and that disaggregate their spectrum be required to pay the Commission the difference between what the designated entity paid and what the payment would have been without the bidding credit.²⁰² NYNEX opposes disaggregation, arguing that there is no compelling reason to develop rules in this proceeding that "countenance and facilitate the private brokering of spectrum," and repeats its belief that the Commission should seek to determine the size of, and then auction, spectrum blocks that will support economically viable service in late 1996 and beyond.²⁰³

143. A number of commenters believe that geographic partitioning of any part of an LMDS license is appropriate. Some commenters argue that geographic partitioning will result in faster build-out.²⁰⁴ Ameritech contends that the relatively high cost of LMDS construction and the shorter transmission paths it provides, in addition to the limitation of service to consumers within reach of cell transmitters, lend support for the Commission's proposals with regard to geographic partitioning. Ameritech also states that permitting partitioning would essentially make LMDS a potential architecture choice for cable operators who otherwise would not likely provide service in areas of less dense population.²⁰⁵ In support, ComTech urges the Commission to ensure that newly created licensees meet both existing build-out requirements and payments if the geographic area was purchased from a designated entity.²⁰⁶ Although supporting the use of MSAs and RSAs, GTE states that, if BTAs are used, the Commission should allow geographic

²⁰⁰ *Id.* at 86 (paras. 89-91).

²⁰¹ CellularVision Comments to *Third NPRM* at 17-18; GTE Comments to *Third NPRM* at 5-6; PTWBS Comments to *Third NPRM* at 2; TI Comments to *Third NPRM* at 15.

²⁰² ComTech Comments to *Third NPRM* at 6-7.

²⁰³ NYNEX Comments to *Third NPRM* at 5.

²⁰⁴ *See, e.g.*, Ameritech Comments to *Third NPRM* at 4; BellSouth Comments to *Third NPRM* at 7; CellularVision Comments to *Third NPRM* at 18; PTWBS Comments to *Third NPRM* at 2.

²⁰⁵ Ameritech Comments to *Third NPRM* at 4.

²⁰⁶ ComTech Comments to *Third NPRM* at 7.

partitioning only on an all-or-nothing basis, so that a licensee would be required to partition all of its spectrum in a given area to the new licensee.²⁰⁷

b. Decision

144. We conclude in general that all LMDS licensees shall be permitted to disaggregate and partition their licenses, and we also propose in the Fifth Notice of Proposed Rulemaking²⁰⁸ specific procedural, administrative, and operational rules to govern the disaggregation and partitioning of LMDS licenses. We also note, however, that those taking advantage of designated entity provisions will be subject to certain restrictions.

145. We believe that affording licensees the flexibility to disaggregate and partition their licenses will encourage spectrum saving, encourage more rapid deployment of services in the LMDS spectrum, and leave the decision of determining the correct size of licenses to the licensees and the marketplace. Licensees are in the best position to analyze their business plans, to assess new technology, and to determine customer demand. As a result, we believe that permitting disaggregation and partitioning will promote efficient use of LMDS spectrum. Moreover, the nature of the LMDS cell structure makes disaggregation and partitioning powerful tools for licensees to concentrate on core areas or to deliver services to isolated complexes, such as rural towns or university campuses, that do not lie within major market areas. We further believe that disaggregation and partitioning will provide opportunities for small businesses seeking to enter the MVPD and local telephony marketplaces.

4. Eligibility

a. Background

(1) NPRMs

146. In the *First NPRM*, we sought comment on our proposal to license two competitors in each LMDS service area and to refrain from adopting restrictions on the licensing of LMDS to specific categories of telecommunications providers.²⁰⁹ We returned to this issue in the *Third NPRM*, in which we proposed to grant only one license for each LMDS service area. We also sought additional comment on the eligibility issue, including whether LECs, cable companies, Commercial Mobile Radio Service (CMRS) providers, and Multichannel Multipoint Distribution

²⁰⁷ GTE Comments to *Third NPRM* at 6-7.

²⁰⁸ See paras. 407-424, *infra*.

²⁰⁹ *First NPRM*, 8 FCC Rcd at 560, 563 (paras. 20, 33-34).

Service (MMDS) licensees should be eligible to acquire LMDS licenses.²¹⁰ In the *Fourth NPRM*, we also addressed the eligibility of in-region LEC and cable companies to acquire LMDS licenses, as we discuss in greater detail below.²¹¹

147. In the course of this rulemaking proceeding, we drew several tentative conclusions on eligibility and requested comment on these conclusions, as well as on a range of other related issues. In the *Third NPRM* we invited comment on our tentative conclusion that there are no existing statutory or regulatory restrictions that prohibit a LEC from acquiring an LMDS license. We asked whether allowing LECs to acquire LMDS licenses in their service areas would eliminate an important new source of competition in the local exchange market, whether LECs would be likely to acquire LMDS spectrum as a means of forestalling competitive entry into the local exchange market, and whether we should adopt rules similar to our cellular-PCS cross-ownership restrictions to address this concern. We also noted that LECs might use LMDS to facilitate entry into the multichannel video programming market. Because LMDS spectrum cannot at this time be used for mobile services, we tentatively determined that the acquisition of LMDS licenses by CMRS providers would not raise competitive concerns and that there is no reason to include LMDS spectrum in the CMRS spectrum caps.²¹²

148. For cable television companies, we sought comment on similar legal and policy issues.²¹³ We tentatively found that there are no existing statutory or regulatory restrictions prohibiting a cable company from holding an interest in an LMDS license in the area served by its cable system, and that the statutory ban on cable and MMDS cross-ownership does not include cable and LMDS cross-ownership within its terms. We asked if cable companies would have an incentive to warehouse spectrum or to divert it to less optimal uses. However, we also indicated that cable companies are a potentially significant source of competition to LECs in the provision of local telephone services. We sought comment regarding how to balance these competing public interests concerning cable operators' participation in LMDS. In addition, we stated that we were reluctant to bar MMDS licensees from participation in LMDS because the two-way capability of LMDS might allow them to provide local telephone service in competition with LECs.

149. In the *Fourth NPRM* we sought to augment the record in this proceeding by identifying and seeking comment on the following issues specific to participation in LMDS by

²¹⁰ *Third NPRM*, 11 FCC Rcd at 89-93 (paras. 97-108).

²¹¹ *Fourth NPRM*, at paras. 105-136.

²¹² *Third NPRM*, 11 FCC Rcd at 91 (para. 102).

²¹³ *Id.* at 90 (para. 100).

incumbent LECs and cable operators. We observed that the record in this proceeding supports the conclusion that LMDS is a potentially important source of competition in either or both the local exchange and multichannel video programming markets. We sought comment, specifically, on whether we should temporarily restrict eligibility for incumbent LECs and cable companies that seek to obtain LMDS licenses in their geographic service areas.²¹⁴ In this regard, we noted that eligibility restrictions, even those with a sunset provision, might effectively preclude incumbent LECs and cable operators from participating in the initial licensing process, because we planned to begin the LMDS licensing process in 1996. We also requested comment on this issue.²¹⁵

150. We asked for comment concerning the projected uses of LMDS spectrum, whether LMDS licenses represent a resource for reducing the market power²¹⁶ of incumbent LECs and cable operators, and whether there are any other viable means of entry into the local exchange and cable markets. We asked whether there would be any inherent cost advantages for incumbent LECs or cable companies due to economies of scope,²¹⁷ or other efficiencies, such as billing and marketing of services. We inquired whether prohibiting incumbent LEC and cable operators from bidding on LMDS licenses in their geographic service areas would discourage investment in LMDS or the development of LMDS technology.²¹⁸

151. We also sought comment in the *Fourth NPRM* concerning the nature of any eligibility restrictions that might be imposed. We solicited comment on the duration of any eligibility restrictions we might impose, but emphasized that eligibility restrictions would continue only until there is increased competition in local video and telephone exchange markets. In the cable context, we inquired whether the four-pronged test for effective competition set forth in Section 623(l) of the Communications Act²¹⁹ would be a reliable indicator of appropriate levels of multichannel video programming. With respect to LECs, however, we noted that there is no standard test for effective competition in the local exchange market. We also sought comment on several practical, administrative decisions necessary to imposing any form of eligibility restriction,

²¹⁴ *Fourth NPRM*, at paras. 105-106.

²¹⁵ *Id.* at para. 128.

²¹⁶ Market power is defined as the ability of a firm to set price profitably above competitive levels. See D. Carlton & J. Perloff, *MODERN INDUSTRIAL ORGANIZATION* 922 (1994).

²¹⁷ Economies of scope is defined as a situation in which it is less costly for a single firm to provide two products or services than for two specialized firms to provide them separately. *Id.* at 920.

²¹⁸ *Fourth NPRM*, at para. 128.

²¹⁹ 47 U.S.C. § 543(l).

including defining the term "incumbent," defining an attributable interest in an incumbent LEC or cable operator, and determining the relationship between limits on participation by incumbent LECs and cable operators in LMDS and our proposal in the *Third NPRM* to allow partitioning and disaggregation.

(2) Comments

152. A number of parties support unrestricted eligibility,²²⁰ and in particular for the eligibility of LECs or cable companies to provide service in rural areas.²²¹ They argue generally that restrictions would directly conflict with the goal of the 1996 Act of removing regulatory barriers to entry and could stifle competition by preventing competitors from using an efficient mix of technologies and discouraging investment by the very entities best equipped to become viable competitors through the use of LMDS technology.²²² Because LMDS likely will require substantial investment in capital and spectrum licenses, many of these parties argue that it is fitting to allow the broadest possible participation by the largest number of potential licensees.

153. Two commenters argue for comprehensive, permanent eligibility restrictions on participation by LECs and cable operators in LMDS both inside and outside of their current service areas. CVTT²²³ claims that LECs would use LMDS licenses for "limited, non-competitive applications" and only as an adjunct to existing services.²²⁴ SkyOptics argues that LMDS is the only near-term source of facilities-based competition in the wireline telephony industry, and that incumbents should be barred from participating in LMDS based on Section 601 of the 1996 Act and because participation in LMDS by incumbents would violate the antitrust laws.²²⁵ SkyOptics goes on to argue that if capital investors understand that incumbents will pay whatever

²²⁰ Ameritech Comments to *Fourth NPRM* at 1-2; BellSouth Comments to *Fourth NPRM* at 2; Bell Atlantic Comments to *Fourth NPRM* at 1; NCTA Comments to *Fourth NPRM* at 2; PRTC Comments to *Fourth NPRM* at 2; Roseville Comments to *Fourth NPRM* at 7-8; USTA Comments to *Fourth NPRM* at 2; US West Comments to *Fourth NPRM* at 1. See also NYNEX Comments to *Third NPRM* at 5-6.

²²¹ Ad Hoc RTG Comments to *Fourth NPRM* at 1-2; Alliance Reply Comments to *Fourth NPRM* at 1; Farmers Tel Comments to *Fourth NPRM* at 1; NTCA Comments to *Fourth NPRM* at 1-2; Pioneer Comments to *Fourth NPRM* at 1.

²²² See, e.g., USTA Comments to *Fourth NPRM* at 5-7; USTA Reply Comments to *Fourth NPRM* at 2-5.

²²³ CVTT licenses technology to CellularVision USA.

²²⁴ CVTT Comments to *Fourth NPRM* at 3-4.

²²⁵ SkyOptics Comments to *Fourth NPRM* at 3-10. But see NYNEX Reply Comments to *Fourth NPRM* at 5-6.

is necessary to protect their market power, they will not supply capital to new entrants merely to bid up the final prices paid by incumbents.²²⁶

154. Many other commenters advocate eligibility restrictions for LECs and cable operators limited to those areas in which they currently operate.²²⁷ Attorneys General from 17 States, for example, contend that incumbents will bid or pay premium prices to maintain future monopoly profits, thus discouraging or outbidding other potential competitors for LMDS spectrum.²²⁸ WebCel maintains that there is a lack of evidence in the record that LECs could benefit from economies of scope or other efficiencies in their use of LMDS spectrum because LMDS is a broadband, wireless service, provided by equipment vendors with a turn-key, stand-alone network "infrastructure" that shares little or nothing in common with wireline twisted-pair telephone networks and coaxial cable systems.²²⁹

155. In its reply comments, DOJ argues that incumbent acquisition of LMDS spectrum can be expected to lead to higher prices for services, and to the warehousing of spectrum or its use for a less than optimum mix of services.²³⁰ The Economic Staff of the FTC asserts that it is "premature" to conclude that local telephony is now sufficiently competitive to eliminate competitive concerns arising from a LEC's acquisition of the sole LMDS license in an overlapping geographic service area.²³¹ The FTC points out that "competitive access providers" still account for only a very small share of the market for access to local exchange networks and do not serve

²²⁶ SkyOptics Comments to *Fourth NPRM* at 10. See also WebCel Comments to *Fourth NPRM* at 17.

²²⁷ M3ITC Comments to *Third NPRM* at 4-5; Emc³ Comments to *Third NPRM* at 7-8; CPI Comments to *Fourth NPRM* at 13-14; ComTech Comments to *Fourth NPRM* at 8-10; MCI Comments to *Fourth NPRM* at 3; WebCel Comments to *Fourth NPRM* at 11; ONE Comments to *Fourth NPRM* at 1. But see Ameritech Reply Comments to *Fourth NPRM* at 1-2.

²²⁸ Attorneys General Reply Comments to *Fourth NPRM* at 3. The Attorneys General are from the following States: Connecticut, Delaware, Florida, Idaho, Iowa, Massachusetts, Minnesota, Missouri, New York, Oklahoma, Pennsylvania, Rhode Island, Virginia, West Virginia, and Washington. See Appendix E.

²²⁹ WebCel Comments to *Fourth NPRM* at 16, 21. See also WebCel Reply Comments to *Fourth NPRM* at 4 (citing, in support, TI Comments to *Third NPRM* at 2, HP Comments to *Third NPRM* at 1). But see, e.g., US West Reply Comments to *Fourth NPRM* at 3.

²³⁰ DOJ Reply Comments to *Fourth NPRM* at 7.

²³¹ FTC Reply Comments to *Fourth NPRM* at 8-9. The FTC points out that "competitive access providers" still account for only a very small share of the market for access to local exchange networks and do not serve most small business and residential customers.

most small business and residential customers.²³² Drawing an analogy to anticompetitively-motivated horizontal mergers, the FTC contends that buildout requirements may avoid the warehousing of spectrum, but do not address the risk of price increases where no viable competition exists.²³³ NTIA argues for bidding eligibility and cross-ownership rules that bar incumbents from acquiring LMDS licenses in service areas where they possess market power, because an LMDS license holder that also possesses market power with respect to one of the potential LMDS services would have an incentive to limit the expansion of output of that service in order to preserve its supra-competitive profits.²³⁴

156. Others advocate limiting restrictions to the largest LECs and cable operators or allowing incumbents to hold only one LMDS license. CellularVision argues that imposing restrictions on regional Bell operating companies (RBOCs) and the largest multiple system operators (MSOs) will enhance the ability of small businesses to obtain LMDS licenses.²³⁵ Allied/GELD argues that incumbents should be limited to a single LMDS license and that such license should be outside their operating or franchise area in order to avoid the negative effects of increasing industry consolidation.²³⁶ No parties, except SkyOptics,²³⁷ argue that there are existing legal restrictions limiting LEC and cable company acquisition of LMDS licenses, and only one other commenter, GTE,²³⁸ argues that there are existing legal restrictions limiting cable TV acquisition of LMDS licenses. GTE argues that the restriction on cable company ownership of an MMDS license contained in Section 613 of the Communications Act²³⁹ also applies to cable company ownership of an LMDS license.²⁴⁰ There is no legal basis for extending the reach of this narrowly focussed section from MMDS to LMDS. Similarly, no parties support restricting the

²³² *Id.* at 9.

²³³ *Id.* at 9-10.

²³⁴ NTIA *Ex Parte* Comments, Aug. 23, 1996, at 1-2.

²³⁵ CellularVision Comments to *Fourth NPRM* at 13.

²³⁶ Allied/GELD Comments to *Fourth NPRM* at 3.

²³⁷ SkyOptics Comments to *Fourth NPRM* at 1. We discount the SkyOptics argument because it involves a number of errors in applying the DOJ and FTC Horizontal Merger Guidelines.

²³⁸ GTE Comments to *Third NPRM* at 9.

²³⁹ 47 U.S.C. § 533.

²⁴⁰ *Id.*

participation of CMRS providers in LMDS auctions, and only one commenter, M3ITC,²⁴¹ supports restricting the participation of MMDS licensees in LMDS auctions.

b. Decision

(1) Basis for Eligibility Restrictions

157. Our overall goal in assessing the need to restrict the opportunity of any class of service providers to obtain and use spectrum to provide communications services has been to determine whether the restriction is a necessary step in ensuring that consumers will receive efficient communications services at reasonable charges.²⁴² Since we are of the view that competitive markets are the most direct and reliable means for ensuring that consumers receive the benefits described in the Communications Act,²⁴³ we have evaluated the need for spectrum licensing restrictions in terms of whether the restrictions are necessary to promote competition in the telecommunications marketplace and whether these restrictions are otherwise consistent with our obligation to promote the public interest.

158. When granting the Commission authority in Section 309(j)(3) to auction spectrum for the licensing of wireless services, Congress acknowledged our authority "to [specify] eligibility and other characteristics of such licenses."²⁴⁴ Congress specifically directed that we exercise that authority so as to "promot[e] . . . economic opportunity and competition . . . by avoiding excessive concentration of licenses and by disseminating licenses among a wide variety of applicants."²⁴⁵ Congress also emphasized this pro-competitive policy in Section 257, in which it

²⁴¹ M3ITC Comments to *Third NPRM* at 4-5.

²⁴² See 47 U.S.C. § 151.

²⁴³ Cf., e.g., Implementation of Sections 3(n) and 332 of the Communications Act -- Regulatory Treatment of Mobile Services, GN Docket No. 93-252, Second Report and Order, 9 FCC Rcd 1411, 1420 (para. 19) (*CMRS Second Report and Order*) ("Success in the marketplace . . . should be driven by technological innovation, service quality, competition-based pricing decisions, and responsiveness to consumer needs -- and not by strategies in the regulatory arena.").

²⁴⁴ 47 U.S.C. § 309(j)(3).

²⁴⁵ Our use of that authority to "place restrictions on the bidding process in order to ensure that a wide variety of applicants are [*sic*] able to meaningfully participate" in the market for the service being auctioned has been upheld by the courts. *Cincinnati Bell Tel. Co. v. F.C.C.*, 69 F.3d 752, 761-762 (6th Cir. 1995) (*Cincinnati Bell*).

articulated a "national policy" in favor of "vigorous economic competition" and the elimination of barriers to market entry by a new generation of telecommunications providers.²⁴⁶

159. Our primary goal in the present proceeding is to encourage efficient competition in the telephony and MVPD markets. We have also expressed a corresponding concern with providing opportunities for smaller operators. These objectives are drawn from the direction given us by Congress. They have guided our examination of whether eligibility restrictions may be necessary in the case of LMDS licensing. Our assessment of whether restrictions will promote competition in the telecommunications marketplace and whether restrictions are consistent with promoting the public interest, has included the following:

- (1) An assessment of the extent to which LMDS may constitute a new source of competition for local exchange telephony and MVPD.
- (2) An analysis of the current market structure for local exchange telephony and for MVPD (with particular attention to the degree of market power presently held by incumbent service providers in both markets) and whether these incumbent service providers are likely to use LMDS licenses to maintain their market power in their respective lines of service.
- (3) An evaluation of whether short-term narrowly-tailored eligibility restrictions are the best means of increasing competition in the local telephony and MVPD markets.
- (4) An estimation of whether incumbent providers of local exchange telephony and MVPD, if they now possess market power, also have efficiencies or economies in providing LMDS that no other class of potential licensees possesses.

We have examined these issues closely and have concluded that certain short-term eligibility restrictions should be imposed on incumbent LECs and cable companies, if we are to achieve our goals in this proceeding and the Congressional policies underlying them. Eligibility restrictions should be eliminated in an area when the incumbent LEC and cable company face sufficient facilities-based competition in the provision of their respective services so that they no longer have substantial market power in the provision of those services.

160. For the reasons discussed below, we find that short-term limitations must be placed on the eligibility of incumbent LECs and cable companies (and entities owning attributable interests in such companies) to own an attributable interest in the 1,150 megahertz LMDS license

²⁴⁶ 47 U.S.C. § 257. Section 257 directs the Commission to identify and eliminate, "by regulations pursuant to its authority under this [Act] . . . market entry barriers for entrepreneurs and other small businesses in the provision and ownership of telecommunications services and information services."

in their authorized or franchised service areas. Incumbent LECs and cable companies will be able to participate fully in the auction of LMDS licenses, but they will be required to divest any overlapping interests, as defined below, if they win a license at the auction. These eligibility restrictions will terminate three years after the effective date of the LMDS rules. However, the restrictions may be extended if, upon review prior to the end of this period, we determine that maintaining the restriction would further promote competition in the local exchange or MVPD market, or both. In addition, we may waive the restriction subsequent to the initial award of licenses, upon a showing of good cause by the petitioner. No restrictions on the 150 megahertz license will be imposed. Based on comments to our *Third NPRM*, we have decided that no restrictions on incumbent CMRS or MMDS licensees are necessary.

161. In imposing these eligibility restrictions we believe that such "predictive judgments" are supported by general economic theory and analysis.²⁴⁷ The court in *Cincinnati Bell* suggested that such support could be supplied through the use of expert economic data or "by analogizing to related industries in which the claimed anticompetitive behavior has taken place."²⁴⁸ Thus, below we set out the basis in economic theory for our conclusion that open eligibility will impede substantially the pro-competitive benefits of licensing LMDS. Where available, we also identify instances in the telecommunications industry in which potential entrants with market power have engaged in anticompetitive behavior of the sort we attempt to prevent here.

(2) Effects of LEC and Cable Company Eligibility on Competition: 1,150 Megahertz Licenses²⁴⁹

162. Based on the record here, standard economic theory, our experience, an analogous situation in the cable TV industry, and our assessment of competitive and regulatory developments in the local telephony and MVPD markets, we find on balance that a policy favoring restricted eligibility for a limited time would result in the greatest likelihood of increased competition in the local telephony and MVPD markets. By restricting in-region LEC and cable companies, we ensure the entry of a new LMDS operator that could provide competition in the LEC market, the MVPD market, or both. An incumbent, on the other hand, would have a strong incentive to obtain an LMDS license in order to prevent a new entrant from obtaining the license

²⁴⁷ *Cincinnati Bell*, 69 F.3d at 760.

²⁴⁸ *Id.*

²⁴⁹ In this section, the term "LMDS" refers only to the 1,150 megahertz licenses. Our eligibility policy with respect to the 150 megahertz licenses is addressed in the next section.

and competing directly in the incumbent's current market.²⁵⁰ In so doing, such an incumbent will have forestalled market entry by an entity that could provide both telephony and MVPD and will have deprived consumers of an opportunity to choose between a possible two providers in each market and the lower prices for such services that consumer choice necessarily implies. Furthermore, either incumbent would have no incentive to use the LMDS spectrum to provide the service in which it has market power because this could result in lower prices for the service, and lower profits. By temporarily restricting incumbents' eligibility to acquire in-region LMDS licenses, this policy maximizes the likelihood of increasing competition in both the LEC and MVPD markets.

(a) Market Structure for Local Exchange Telephony and MVPD

163. As we have unanimously observed in recent proceedings, both incumbent LECs and cable television firms currently possess substantial market power.²⁵¹ An in-region LMDS license would be valuable to these firms not only because they could use it as other firms would, but also because, by obtaining the license, they could preserve excess profits that an independent LMDS competitor would erode. We recognize that as a result of ongoing technological changes and passage of the 1996 Act, there are other sources of potential and actual competition to the incumbent LEC and cable firms in the local telephony and local MVPD markets.²⁵² For multichannel video distribution, likely sources of competition include open video systems (OVS), MMDS, DBS, FSS program distributors, and satellite master antenna television systems. For fixed voice and broadband data services, the competitive alternatives include new facilities-based, wireline entrants, such as interexchange carriers (IXCs), competitive access providers (CAPs), and cable firms, non-facilities-based entrants utilizing the new local competition provisions of the 1996 Act, and a variety of wireless possibilities, including PCS and cellular service providers. In

²⁵⁰ See, e.g., J. Tirole, *THE THEORY OF INDUSTRIAL ORGANIZATION* 346-52 (1988); R. Gilbert & D. Newbery, *Preemptive Patenting and the Persistence of Monopoly*, 72 *Am. Econ. Rev.* 514 (June 1982); *ECONOMIC REPORT OF THE PRESIDENT* 215 (1997).

²⁵¹ See generally *Implementation of the Local Competition Provisions in the Telecommunications Act of 1996*, CC Docket No. 96-98, *Interconnection between Local Exchange Carriers and Commercial Mobile Radio Service Providers*, CC Docket No. 95-185, *First Report and Order*, FCC 96-378, released Aug. 8, 1996, at paras. 1-23 (*Local Competition First Report and Order*), *motion for stay pending judicial review denied*, Order, FCC 96-378, released Sept. 17, 1996, *partial stay granted sub nom. Iowa Utils. Board v. F.C.C.*, No. 96-3321, 1996 WL 589204 (8th Cir. Oct. 15, 1996); *Implementation of the Local Competition Provisions in the Telecommunications Act of 1996*, CC Docket No. 96-98, *Interconnection between Local Exchange Carriers and Commercial Mobile Radio Service Providers*, CC Docket No. 95-185, *Second Report and Order and Memorandum Opinion and Order*, FCC 96-333, released Aug. 8, 1996. See also *1996 Cable Competition Report*, at para. 4.

²⁵² For our assessment of local telephony competition issues, see *Local Competition First Report and Order*. For our assessment of MVPD markets, see *1996 Cable Competition Report*.

many of the foregoing cases, LECs may enter MVPD markets and cable television firms may enter local exchange markets.

164. However, these various competitive prospects, taken together, do not mean that an incumbent LEC or cable TV firm will be unable to preserve substantial market power or delay significantly the development of competition by acquiring in-region LMDS licenses. Some commenters point out that all these other technologies are "likely" or "actual" potential sources of competition to LECs and cable firms. However optimistic those beliefs may be, they do not change the fact that at this time LECs and cable firms hold market power, as we have unanimously found many times. In our opinion, to assert that competition from these various sources is likely to arise requires a great deal of speculation. The emergence of significant competition in the local telephony and video programming distribution markets is not certain and will unquestionably take time, notwithstanding the recent removal of legal and regulatory barriers to such competition. None of these technologies and service categories has yet posed anything like a significant competitive antidote to the incumbents' market power, despite, in some cases, their having been in existence for many years (*e.g.*, cellular and MMDS). It is unlikely that a meaningful increase in competition will evolve over the time it will take to license, construct, and begin service on LMDS systems. Thus, absent short-term eligibility restrictions, incumbents would be able to delay the onset of competition from LMDS by acquiring LMDS licenses congruent to their present service territories.

165. Bell Atlantic argues that restricting LEC participation in LMDS only makes sense if the LMDS spectrum is currently the vehicle most likely to bring about local telephone competition. It argues that other recent developments, such as the introduction of PCS and the availability of unbundled network elements, are much more likely than LMDS to bring about competition in the local exchange telephony market. Bell Atlantic argues that, under these circumstances, acquiring and withholding LMDS from the local telephony market would not limit competition or affect pricing, with the result that incumbents would have no incentive to attempt this strategy.²⁵³ As discussed below, the evidence strongly supports our conclusion that LMDS is a likely vehicle to provide local telephone competition.²⁵⁴ Because we cannot confidently predict what the ultimate uses of LMDS spectrum will be, we must base our analysis on the substantial possibility that LMDS licenses may enable more effective entry into local telephony, local MVPD, and local broadband data markets. As we have explained above, we believe the possibility that LMDS spectrum in fact constitutes a rare opportunity to deploy two-way broadband wireless services that could effectively compete with the current incumbents providing narrowband LEC

²⁵³ J. Haring & C. Jackson, *Economic Disabilities of License Eligibility and Use Restrictions*, Bell Atlantic *Ex Parte* Submission, Sept. 10, 1996, at 10.

²⁵⁴ See para. 170, *infra*.

and one-way cable services, as many commenters have argued, means that a short-term eligibility restriction applicable to those firms now possessing market power is both prudent and reasonable.

166. In addition to its basis in general economic theory, our conclusion that LECs and cable companies would likely attempt to preempt competition in their respective markets, absent eligibility restrictions, and that their consequent acquisition of in-region LMDS licenses would handicap the pro-competitive benefits of licensing this new service, may find support in circumstances in the early 1990s with respect to the advent of satellite broadcast service providers as potential competitors to local cable companies.²⁵⁵ In complaints filed by 40 State Attorneys General on June 9, 1993, and August 18, 1993, following a five-year investigation into anticompetitive practices in the cable television industry, seven of the Nation's largest multiple system operators (MSOs) and Primestar Partners, L.P., a joint venture composed of these MSOs and a subsidiary of the General Electric Company,²⁵⁶ were alleged to have stifled competition from their non-cable competitors, such as DBS operators, and to have attempted to suppress the development of DBS technology as a competitor to cable television service.

167. Specifically, the Primestar joint venture was alleged to have established anticompetitive restrictions on cable programming access by distributors that compete with the cable MSOs.²⁵⁷ The Attorneys General point out that, at the time the lawsuits were initiated, the seven MSOs provided service to nearly half of the Nation's cable television subscribers, virtually all of them operating in areas without a direct competitor, and that DBS therefore posed a serious challenge to their local monopolies.²⁵⁸ In addition, the Primestar joint venture participants agreed that Primestar would not offer programming that would compete with programming already offered by the seven MSOs. The joint venture agreement also granted each MSO the exclusive right to distribute satellite broadcast service in its cable franchise area, in order to eliminate competition among the joint venturers. The Department of Justice conducted a parallel investigation of these anticompetitive practices. In separate settlement agreements between the defendants and the Attorneys General and the Department of Justice, entered as final judgments

²⁵⁵ See Attorneys General Reply Comments to *Fourth NPRM* at 4. See also Attorneys General of Minnesota, Pennsylvania, and Wisconsin, *Ex Parte* Letter, May 10, 1996; Implementation of the Cable Television Consumer Protection and Competition Act of 1992 -- Development of Competition and Diversity in Video Programming Distribution and Carriage, MM Docket No. 92-265, Memorandum Opinion and Order on Reconsideration of the First Report and Order, 10 FCC Rcd 3105, 3112 (para. 14) (1994) (*Cable Programming Order*).

²⁵⁶ Primestar is a fixed satellite service Ku-band Direct to Home operator owned and formed by cable MSOs to provide medium-power DBS service. See *Cable Programming Order*, 10 FCC Rcd at 3112 (para. 14).

²⁵⁷ *Id.*

²⁵⁸ Attorneys General Reply Comments to *Fourth NPRM* at 4-5.

on September 14, 1993, and April 4, 1994, respectively,²⁵⁹ the defendant MSOs agreed to desist from these practices. The defendants did not, however, admit any violation of statutory or regulatory requirements.²⁶⁰

168. In the LMDS context, the Attorneys General point out that the settlement negotiated by the States ensured that satellite broadcasters, microwave relay television systems, and other providers that have attempted to compete against the cable television industry will be able to buy programming owned and controlled by the cable industry on "reasonable terms," and barred the defendants from discriminating against potential competitors offering a competing technology.²⁶¹ They contend that, because, like satellite broadcast service in the early 1990s, LMDS has the capacity to be a direct, facilities-based competitor to existing LECs and cable television companies, without a bar on eligibility "this new form of direct competition to the existing LECs and cable monopolists will be lost."²⁶²

169. The anticompetitive motives and behavior alleged to have been manifested by cable companies with respect to satellite broadcast service and addressed in the *Primestar Cases* are similar to the motives and behavior that we anticipate with respect to incumbent entry into LMDS and are attempting to address here:

- The acquisition of licenses in order to forestall market entry by, and consequent competition from, a new competitor.
- The loss of a valuable opportunity to introduce competition into concentrated markets characterized by firms with substantial market power.

We believe that the conduct alleged to have been displayed in the *Primestar* case constitutes additional support, in line with that referred to as persuasive in *Cincinnati Bell*, for our assessment that LECs and cable companies should be barred from acquiring in-region 1,150 megahertz LMDS licenses until they face sufficient facilities-based competition in the provision of their respective services so that they no longer have substantial market power in the provision of those services.

²⁵⁹ *New York v. Primestar Partners*, 1993 WL 720677 (S.D.N.Y. 1993); *United States v. Primestar Partners*, 1994 WL 196800 (S.D.N.Y. 1994) (collectively, *Primestar Cases*).

²⁶⁰ *See Cable Programming Order*, 10 FCC Rcd at 3121, n.83 (para. 33).

²⁶¹ Attorneys General Reply Comments to *Fourth NPRM* at 5; *see Cable Programming Order*, 10 FCC Rcd at 3112-13 & n.31 (para. 14).

²⁶² *Id.* at 6.

(b) LMDS as a Source of Competition

170. Our concern regarding LEC and cable eligibility is educated by the substantial record collected in this proceeding on the capabilities of LMDS. LMDS has the potential to provide fixed video, voice, and data services, services that may be one-way or two-way. We have stated in this Order that we will not specify the type of service that must be offered by LMDS operators but will allow the marketplace to determine the best use of this spectrum.²⁶³ Thus, LMDS licenses may be used to provide service in the local MVPD market, the local telephone market, a broadband data market, or a combination of these possibilities. For example, CellularVision is currently providing one-way video service, and TI's plan explicitly incorporates interactive video, voice, and data in an integrated system. LMDS offers a significant amount of capacity, larger than currently available wireless services. For instance, according to TI, the LMDS system they have manufactured for use in other countries can be used to serve 16,000 telephone subscribers, in each LMDS cell with a three-mile radius, concurrently with about 200 video-on-demand channels.²⁶⁴ For the reasons discussed below, we believe that the likelihood that LMDS can increase competition in either the local multichannel video or local telephone exchange markets (or both simultaneously) is high and warrants analysis in order to determine whether in-region LEC and cable TV incumbents should be permitted to acquire and hold initial licenses.

171. While all bidders in an auction for LMDS licenses can be expected to base their bids on their individual assessment of the most efficient use of the spectrum, LECs and cable companies assessing the value of in-region LMDS licenses would have the additional incentive to protect their market power and preserve a stream of future profits. Thus, whereas a new entrant lacking a share in any local market can be expected to use the LMDS license to compete in a range of possible markets, it is reasonable for us to conclude that a local incumbent would likely attempt to foreclose the possibility of such competitive entry by obtaining the LMDS license and using it only to complement its current operations, not to compete with them. We believe that this incentive will skew its decisions regarding the uses to which LMDS spectrum is put, resulting in inefficient use of the spectrum, and will not promote competition, two factors we are required to assess under Section 309(j)(3)(B) and Section 309(j)(3)(D) when specifying eligibility and other characteristics of licenses to be issued by competitive bidding.²⁶⁵

172. Even if one incumbent were to use LMDS to enter the other's market, increasing competition in that market relative to the status quo, the potential to increase competition will

²⁶³ We expect that the uses of LMDS will become evident as the technology is further developed and as the actual demand for the various services is identified over the next few years.

²⁶⁴ Texas Instruments Letter Notice of *Ex Parte* Communication, June 6, 1995.

²⁶⁵ 47 U.S.C. §§ 309 (j)(3)(B), 309(j)(3)(D).

have been reduced because there would be no increase in the level of competition in that incumbent's original market. Thus, we have determined to maximize the opportunity for competition in two areas of telecommunications demonstrating a present lack of competition, by reserving the 1,150 megahertz LMDS license for an entrant without market power in either the local telephony or MVPD markets in the BTA.

173. In assessing the need to apply eligibility restrictions to in-region LECs and cable TV incumbents, we are cognizant of the view that, in specific circumstances, a dominant firm has the incentive to expend resources to perpetuate the status quo. Thus, incumbents are likely to be high bidders for LMDS licenses.²⁶⁶ Moreover, we find that the temptation for preemptive acquisition is particularly compelling here because of the unusually large size of the LMDS spectrum allocation. A single, large spectrum block of relatively unused spectrum will be auctioned in each service area, and development of equipment and technology is already quite advanced. As noted above, the capacity of an LMDS license is unprecedented. Although an incumbent might use an in-region LMDS license to enter and increase competition in some other market (for example, a LEC might use LMDS to provide MVPD operations) this would not assuage our concerns about competition because, even if such use did take place, there is no assurance that this would be the most economically efficient use of the spectrum licensed.

174. A number of theoretical economic models demonstrate the actions a firm can take to retain a monopoly or dominant position in a market.²⁶⁷ These actions can include creating entry barriers to competitors by strategically locating retail outlets, by introducing a large number of similar brands, by making substantial expenditures in research and development to win a patent race, or by investing in significant additional productive capacity or inputs.²⁶⁸

175. The economic principle at work in these circumstances is that a monopolist stands to lose more profits than a duopolist has to gain; thus, the monopolist has a greater incentive to

²⁶⁶ See K. Baseman, "The Economics of Bidding for Scarce Resources: The Lessons of Monopoly Preemption as Applied to FCC Auctions of LMDS Licenses," WebCel Comments to *Fourth NPRM*, Attachment.

²⁶⁷ See, e.g., B. Eaton & R. Lipsey, *The Theory of Market Preemption: The Persistence of Excess Capacity and Monopoly in Growing Spatial Markets*, 46 *Econometrica* 149; R. Gilbert & D. Newbery, *Preemptive Patenting and the Persistence of Monopoly*, 72 *Am. Econ. Rev.* 514 (June 1982); T. Lewis, *Preemption, Divestiture, and Forward Contracting in a Market Dominated by a Single Firm*, 73 *Am. Econ. Rev.* 1092 (Dec. 1983). See also F. Scherer, *INDUSTRIAL MARKET STRUCTURE AND ECONOMIC PERFORMANCE* 252-60 (1980); J. Tirole, *THE THEORY OF INDUSTRIAL ORGANIZATION* 346-52 (1988); R. Gilbert, *Mobility Barriers and the Value of Incumbency*, in *HANDBOOK OF INDUSTRIAL ORGANIZATION*, R. Schmalensee & R. Willig, ed. (1989).

²⁶⁸ R. Gilbert, *Mobility Barriers and the Value of Incumbency*, in *HANDBOOK OF INDUSTRIAL ORGANIZATION*, R. Schmalensee & R. Willig, ed. (1989).

preempt than an entrant has to enter.²⁶⁹ The strongest predictions of a firm's incentive to outbid (or deter) a potential entrant result when the incumbent is a monopolist and compares its current position to a duopoly outcome. Several commenters acknowledge the incumbent LECs' and cable television firms' current dominant positions in their respective markets and assert that these firms' incentives would be to block entry into their respective geographic markets.²⁷⁰ Accordingly, we believe there is sufficient economic support to limit LECs' and cable television firms' in-region eligibility to participate in the LMDS auction.

(c) Usefulness of Short-Term Eligibility Restrictions

176. The third element of our inquiry is whether eligibility restrictions are the best means of achieving our goal of increasing competition in the LEC and MVPD markets. We find that they are. We requested comments on allowing unrestricted eligibility for LMDS auctions, but limiting the use to which the spectrum could be put by incumbent telephone and cable television firms.²⁷¹ Commenters generally oppose a use restriction.²⁷² We believe that use restrictions will not solve the primary competitive concern raised by incumbent acquisition of LMDS. To protect its market position, an incumbent has an incentive to use LMDS spectrum to provide services it does not provide, and to restrict output of its current service. Therefore, preventing the incumbent from providing its current service with the newly acquired spectrum will not constrain its behavior in a way that will make its current market more competitive. We also believe that use restrictions would constitute an unreasonable intrusion into firms' operations and be administratively difficult to enforce. In addition, since we do not know at this time whether the LMDS spectrum is best used for local telephone, video, or something else, a use restriction could substantially harm the efficient use of this spectrum -- one of our paramount statutory mandates.

177. Persuasive comments from several parties, including DOJ, various State Attorneys General, and staff of the FTC, have convinced us that in this proceeding, on balance, it is preferable to impose eligibility restrictions rather than to rely on *ex post* remedies such as

²⁶⁹ J. Tirole, THE THEORY OF INDUSTRIAL ORGANIZATION 348-49 (1988).

²⁷⁰ See FTC Reply Comments to *Fourth NPRM* at 4-7; DOJ Reply Comments to *Fourth NPRM* at 6-7; CellularVision Comments to *Fourth NPRM* at 12; CPI Comments to *Fourth NPRM* at 6-7; ComTech Comments to *Fourth NPRM* at 8; MCI Comments to *Fourth NPRM* at 3; SkyOptics Comments to *Fourth NPRM* at 9; Webcel Comments to *Fourth NPRM* at 7.

²⁷¹ *Fourth NPRM*, at para. 131.

²⁷² See, e.g., DOJ Reply Comments to *Fourth NPRM* at 8.

enforcement of the antitrust laws.²⁷³ In addition, while we recognize that restrictions may prevent incumbent firms from experimenting with certain technology and market combinations, and might conceivably foreclose or delay desirable entry by incumbents into new markets, we believe that we have designed restrictions that minimize the likelihood of these potential negative impacts. As further explained below, the restrictions will be temporary, ending when the likelihood of anticompetitive behavior has abated, and they will be structured as flexibly as possible to minimize adverse limitations on incumbents. Thus, there is no evidence that the temporary restrictions will result in a sacrifice of efficiency gains. With respect to efficiency gains, we note that, despite our specific query on this topic in the *Fourth NPRM*, no substantive evidence of economies of scope or other efficiencies of joint operation of an LMDS system by an incumbent LEC or cable operator has been provided by commenters.²⁷⁴

178. In addition, the 1996 Telecommunications Act recognizes the anticompetitive implications of market power and recognizes the need to reduce market power by encouraging competitive entry into communications markets.²⁷⁵ Nevertheless, a number of commenters who oppose any restrictions on LECs or cable companies argue that such restrictions are inconsistent with the 1996 Act.²⁷⁶ These arguments are rebutted by several commenters who support restrictions.²⁷⁷ DOJ, for example, argues that restrictions on "in-region" ownership of an LMDS license are consistent with the 1996 Act because they would promote competition by enabling LECs and cable companies to offer out-of-region local telephone or cable service without any restrictions, or in-region service using a means other than LMDS.²⁷⁸ Section 613(c) of the Communications Act, for example, grants the Commission authority to prescribe rules with respect to the ownership or control of cable systems by persons who own or control other media of mass communications (including, presumably, LMDS) that operate in the same community served by the cable system. Finally, regarding prior Commission precedent, we note that our rules prohibit cellular licensees from owning an A, B, or C-block PCS license in the same geographic area. Therefore, we find that our decision to restrict LEC or cable company ownership of LMDS licenses is consistent with the provisions and policies of the Communications Act.

²⁷³ The Attorneys General speak directly to the problems associated with relying on *ex post* remedies. See Attorneys General Reply Comments to *Fourth NPRM* at 4-6.

²⁷⁴ For example, we thought that LECs or cable firms might achieve savings not available to new entrants by taking advantage of their current infrastructure and market presence.

²⁷⁵ See, e.g., Section 10 of the Communications Act, 47 U.S.C. § 160.

²⁷⁶ See USTA Comments to *Fourth NPRM* at 5; Bell Atlantic Comments to *Fourth NPRM* at 7.

²⁷⁷ See, e.g., WebCel Comments to *Fourth NPRM* at 12-15; CPI Comments to *Fourth NPRM* at 2-6.

²⁷⁸ DOJ Reply Comments to *Fourth NPRM* at 13.

179. Commenters from the rural telephone community argue against any restrictions on LEC ownership of LMDS licenses.²⁷⁹ They discuss why, even if the Commission decides to impose restrictions on LECs, we should exempt those LECs that are rural telephone companies. They reason that unless rural telephone companies are able to participate in the LMDS market, consumers in rural areas are likely to be deprived of the benefits of this new service. We agree that it would be undesirable to impair the provision of LMDS service to rural consumers. Although we have decided to impose some short-term restrictions on LECs, including rural telephone companies, we do not believe that these restrictions, as crafted, will hinder the introduction of LMDS in rural areas. Rural LECs have not made the case that they are the only entities that can provide LMDS in their service territories.

180. Therefore, if it is profitable to provide service in rural areas, a licensee should be willing to do so, either directly or by partitioning the license and allowing another firm to provide service. In addition, because rural LECs are generally small, they are unlikely to have the degree of overlap with BTAs necessary, as explained below, to trigger our eligibility restriction. Further, to the extent a rural (or any other) LEC does exceed the attributable interest limit we are adopting, we are permitting such a LEC to obtain an LMDS license and then to divest any overlapping attributable interests. A rural LEC would also have the option of acquiring a 150 megahertz license in its service area. Finally, to the extent any LEC is unsuccessful in the LMDS auction, it will still have the opportunity to participate -- subject to the eligibility rules -- by either acquiring spectrum from an LMDS licensee through the partitioning and disaggregation rules we are adopting, or by contracting (in a way that does not circumvent any applicable ownership and control requirements and does not raise competitive concerns) with the LMDS licensee to provide service in its telephone market area.²⁸⁰

181. In addition to satisfying our test for imposition of eligibility restrictions, we believe that establishing temporary, in-region eligibility restrictions on the 1,150 megahertz LMDS licenses best comports with the auction goals of the Communications Act.²⁸¹ In particular, these minimal restrictions will promote economic opportunity and competition, and will avoid excessive concentration of licenses by disseminating licenses among a wide variety of applicants.

²⁷⁹ Ad Hoc RTG Comments to *Fourth NPRM* at 1-6; Alliance Reply comments to *Fourth NPRM* at 1-5; Farmers Tel Comments to *Fourth NPRM* at 1-3; NTCA Comments to *Fourth NPRM* at 1-5; Pioneer Comments to *Fourth NPRM* at 1-4.

²⁸⁰ This last option is suggested by CPI. See CPI Reply Comments to *Fourth NPRM* at 10.

²⁸¹ See Section 309(j)(3) of the Communications Act, 47 U.S.C. § 309(j)(3).

(3) Effects of LEC and Cable Company Eligibility on Competition: 150 Megahertz Licenses

182. We conclude that acquisition by incumbent LECs or cable television firms of the in-region 150 megahertz LMDS license does not pose significant competitive concerns. First, we believe that acquisition of the licenses for both the large and small spectrum blocks is not necessary in order for entrants to establish viable systems; the license for the large block alone should provide ample spectrum capacity. Thus, incumbents should have no incentive to acquire the license for the small block solely to hobble the development of the 1,150 megahertz licensees. Second, the 150 megahertz license provides inadequate capacity to enable the provision of attractive MVPD service. Thus, cable company acquisition of this license raises no anticompetitive concerns. Third, given the fact that we have now provided for an additional competitive option in the form of the 1,150 megahertz licensee, we find that incumbent LECs will not have a meaningful incentive to acquire the 150 megahertz license in order to preempt entry and slow the development of future competition.

(4) Effects of CMRS and MMDS Eligibility on Competition

183. With respect to CMRS providers, the only comments in the record addressing the issue of eligibility for such providers support our tentative conclusion in the *Third NPRM* that participation by CMRS firms raises no competitive concerns because LMDS cannot be used to provide mobile service.²⁸² With one exception,²⁸³ no comments to the *Fourth NPRM* addressed this issue nor the related question of whether to count LMDS spectrum as part of the CMRS spectrum cap. Since the issuance of the *Third NPRM*, we have authorized CMRS licensees to provide fixed services.²⁸⁴ To the extent that CMRS licenses are most valuable for mobile uses, there is no reason to be concerned about CMRS acquisition of fixed LMDS licenses. To the extent that CMRS licenses may be used to provide fixed services, we find that the combination of CMRS and LMDS in the same BTA would imply no market power. First, there are existing wireline competitors, especially the incumbent LEC and cable television firm, that can provide fixed wireless services. Second, our CMRS spectrum cap will prevent anticompetitive concentration of CMRS spectrum itself. For these reasons, we adopt our tentative conclusion that CMRS providers will be eligible for LMDS auctions in their service areas, and that LMDS spectrum will not count against the CMRS spectrum cap.

²⁸² *Third NPRM*, 11 FCC Rcd at 90 (para. 102).

²⁸³ Although the *Fourth NPRM* solicited additional comment on this issue, only BellSouth responded, supporting the Commission's tentative conclusion not to restrict CMRS providers. See BellSouth Comments to *Fourth NPRM* at 2-3.

²⁸⁴ Amendment of the Commission's Rules to Permit Flexible Service Offerings in the Commercial Mobile Services, WT Docket No. 96-6, First Report and Order, 11 FCC Rcd 8965 (1996) (*CMRS Flexible Service Report and Order*).

184. The *Third NPRM* sought comment on the issue of MMDS licensee eligibility, and stated our reluctance to restrict the opportunity of MMDS licensees to obtain LMDS spectrum, absent compelling public interest arguments to the contrary.²⁸⁵ In responding to the *Third NPRM*, M3ITC expresses concern at the prospect of MMDS licensee eligibility for LMDS auctions, speculating that with sufficient investment MMDS firms could offer two-way services with their existing assigned spectrum.²⁸⁶ There is no compelling evidence, however, that MMDS licensees possess market power sufficient to distort their incentives to acquire and deploy in-region LMDS. Moreover, as WCA argues, the possibility of employing LMDS for two-way communications makes it a potentially beneficial complement to MMDS.²⁸⁷ The combination may allow more effective challenges to the dominant incumbent firms, and should present minimal competitive risks. Therefore, we find that MMDS licensee eligibility to acquire LMDS spectrum in their service areas is consistent with our objective to increase competition.

c. Eligibility Rules

185. We now turn to the definitions that will be used to determine if an entity is an "incumbent" and, if so, whether the eligibility restrictions will apply. The *Fourth NPRM* did not specifically address the issue of defining an "incumbent." Given the dynamic nature of the local exchange and MVPD businesses, we believe it is important to establish a clear definition of the term "incumbent" in the context of any eligibility rules. In order to achieve this clarity, we have decided to adopt definitions drawn directly from the statute. Thus, we define an incumbent LEC as one that comports with the statutory definition of an incumbent LEC in Section 251(h) of the Communications Act,²⁸⁸ and we define an incumbent cable company as one that is franchised to

²⁸⁵ *Third NPRM*, 11 FCC Rcd at 93 (para. 107).

²⁸⁶ M3ITC Comments to *Third NPRM* at 4-5.

²⁸⁷ WCA Comments to *Third NPRM* at 4.

²⁸⁸ 47 U.S.C. 251(h) contains the following definition of an incumbent local exchange carrier:

(1) . . . the term "incumbent local exchange carrier" means, with respect to an area, the local exchange carrier that -- (A) on the date of enactment of the Telecommunications Act of 1996, provided telephone exchange service in such area; and (B)(i) on such date of enactment was deemed to be a member of the exchange carrier association pursuant to section 69.601(b) of the Commission's regulations . . . ; or (ii) is a person or entity that, on or after such date of enactment, became a successor or assign of a member described in clause (i); (2) TREATMENT OF COMPARABLE CARRIERS AS INCUMBENTS -- The Commission may, by rule, provide for the treatment of a local exchange carrier (or class or category thereof) as an incumbent local exchange carrier for purposes of this section if (A) such carrier occupies a position in the market for telephone exchange service within an area that is comparable to the position occupied by a carrier described in paragraph (1); (B) such carrier has substantially replaced an incumbent local exchange carrier described in paragraph (1); and (C) such treatment is consistent with the public interest, convenience, and necessity and the purposes of this

provide cable service and is not subject to effective competition pursuant to Section 623(l) of the Communications Act.²⁸⁹

186. In the *Fourth NPRM*, the Commission sought comment regarding whether an incumbent LEC or cable company should be considered "in-region" if 20 percent or more of the population of the BTA is within the LEC's authorized telephone service area or the cable company's franchised service area.²⁹⁰ Comments from those parties supporting geographically limited restrictions generally favor the use of 20 percent or more of the population of the BTA being within the LEC's authorized telephone service area or the cable company's franchised service area as the test for overlapping service areas, or being "in-region."²⁹¹

187. Even though many commenters concur with the 20 percent overlap proposal, we believe, upon further review, that we should adopt a 10 percent overlap test, for the following reasons. First, we stated that the approach we suggested in the *Fourth NPRM* was meant to parallel the geographic overlap percentage contained in the cellular and PCS cross-ownership

section.

²⁸⁹ 47 U.S.C. § 543(l) contains the following definition of effective competition:

(1) The term "effective competition" means that -- (A) fewer than 30 percent of the households in the franchise area subscribe to the cable service of a cable system; (B) the franchise area is (i) served by at least two unaffiliated multichannel video programming distributors each of which offers comparable video programming to at least 50 percent of the households in the franchise area; and (ii) the number of households subscribing to programming services offered by multichannel video programming distributors other than the largest multichannel video programming distributor exceeds 15 percent of the households in the franchise area; (C) a multichannel video programming distributor operated by the franchising authority for that franchise area offers video programming to at least 50 percent of the households of that franchise area; or (D) a local exchange carrier or its affiliate (or any multichannel video programming distributor using the facilities of such carrier or its affiliate) offers video programming services directly to subscribers by any means (other than direct-to-home satellite services) in the franchise area of an unaffiliated cable operator which is providing cable service in that franchise area, but only if the video programming services so offered in that area are comparable to the video programming services provided by the unaffiliated cable operator in that area.

²⁹⁰ *Fourth NPRM*, at para. 132.

²⁹¹ See, e.g., MCI Comments to *Fourth NPRM* at 8; Roseville Comments to *Fourth NPRM* at 7; Webcel Comments to *Fourth NPRM* at 24. An exception is CPI, which argues for a permissible overlap of service areas not to exceed 5 percent. See CPI Reply Comments to *Fourth NPRM* at 9. See also ComTech Comments to *Fourth NPRM* at 8 (arguing for an overlap rule restricting incumbent LEC or cable entry only if the incumbent serves 15 percent or more of the households of the BTA).

rule,²⁹² or 10 percent.²⁹³ That approach, however, was erroneously crafted in describing the rule as establishing a 20 percent benchmark. Second, we believe a 10 percent threshold is a better indicator of conflicting interests and, given the ability of a licensee to partition its license to come into compliance, a fair and more effective means of accomplishing the public interest goal of fostering competitive markets.

188. Third, as we have found in the case of cellular and PCS providers, we believe that "an overlap of less than 10 percent of the population is sufficiently small that the potential for exercise of undue market power by the . . . operator is slight."²⁹⁴ Finally, we intended to adopt a rule that would conform with the overlap rule used in conjunction with the CMRS spectrum cap. We believe as a general matter that it is preferable to have rules for wireless spectrum that are as consistent as possible for the sake of overall simplicity, ease of compliance, and administrative efficiency. Therefore, we are adopting rules that consider an incumbent LEC or cable company to be "in-region" if 10 percent or more of the population of the BTA is within the LEC's authorized telephone service area or the cable company's franchised service area.

189. The *Fourth NPRM* also sought comment regarding what should constitute an attributable interest for an incumbent LEC or cable operator. We suggested that we would consider an ownership interest of at least 10 percent by an incumbent LEC or its affiliate, or an incumbent cable company or its affiliate, would be considered an attributable interest for purposes of determining the applicability of any eligibility restrictions.²⁹⁵ Comments on this aspect of the proposal from those supporting geographically limited restrictions generally support using 10 percent ownership as an attribution threshold.²⁹⁶

190. We have decided to adopt attribution rules that apply when an ownership interest is at least 20 percent, for the following reasons. First, we have concluded that a 20 percent attribution rule provides the proper balance between "encourag[ing] capital investment and business opportunities" in LMDS,²⁹⁷ and guarding against potential competitive harms associated

²⁹² *Fourth NPRM*, at para. 132.

²⁹³ 47 CFR § 20.6(c).

²⁹⁴ Amendment of Parts 20 and 24 of the Commission's Rules -- Broadband PCS Competitive Bidding and the Commercial Mobile Radio Service Spectrum Cap, WT Docket No. 96-59, 11 FCC Rcd 7824, 7876 (para. 107) (1996) (*Broadband PCS Report and Order*).

²⁹⁵ *Fourth NPRM*, at para. 133.

²⁹⁶ See, e.g., CPI Comments to *Fourth NPRM* at 13.

²⁹⁷ *Broadband PCS Report and Order*, 11 FCC Rcd at 7881 (para. 119).

with the exercise of undue influence by incumbent LECs and cable companies in connection with the operations of LMDS licensees. Second, we believe that one of the factors leading us to establish the 20 percent benchmark for CMRS also applies in the case of LMDS, namely, that "increased flexibility in our rules will enable [LMDS] providers to adapt their services to meet customer demand."²⁹⁸

191. Third, we also conclude that establishment of a 20 percent attribution level will facilitate a wide variety of service providers to enter the marketplace, thus promoting the competitive delivery of wireless services, with attendant benefits to consumers and the national economy.²⁹⁹ Finally, as with the geographic overlap issue discussed above, we believe there are good reasons to adopt rules that are consistent with existing rules governing wireless service licensees. The rules governing CMRS services use 20 percent as the ownership level that constitutes an attributable interest in a license. As a consequence of our decision, no entity having an ownership interest of at least 20 percent in an incumbent LEC or cable company will be permitted to hold a 20 percent or greater interest in a 1,150 megahertz in-region LMDS licensee.

192. In determining ownership interests, affiliate relationships will be quantified using a multiplier, and management and joint marketing agreements may be considered to be attributable interests under certain circumstances. The attribution rules, among other things, will provide that: officers and directors have an attributable interest in their company; non-voting stock in excess of 20 percent is attributable; stock interest held in trust is attributable to those who have or share the power to vote or sell the stock; debt and instruments such as warrants with rights of conversion to voting interests are generally not attributable until conversion is effected; and limited partnership interests are attributable.

193. In the *Fourth NPRM*, we proposed to restrict eligibility of incumbent LEC and cable companies to obtain in-region LMDS licenses for a limited time.³⁰⁰ While we have determined that carefully-tailored temporary restrictions on incumbent LECs and cable companies are necessary to help assure that competition in the LEC and MVPD markets is enhanced with the licensing of LMDS, we believe it is possible to be less restrictive than our proposal in one significant respect. We find no compelling public benefit to be achieved by foreclosing incumbent LECs and cable companies from participating fully in the auction of 1,150 megahertz LMDS licenses, including the auction of in-region licenses, so long as such firms subsequently come into compliance with our eligibility rules. As noted in reply comments from the Staff of the FTC, a

²⁹⁸ *Id.* (footnote omitted).

²⁹⁹ *Cf. id.*

³⁰⁰ *Fourth NPRM*, at paras. 135-136.

cable MSO that owns a system contained entirely within a BTA should be able to sell this system to avoid competitive problems associated with this overlapping ownership interest.³⁰¹

194. This example highlights the possibility that incumbent LECs and cable companies might find it advantageous to obtain a large LMDS license and then to divest sufficient overlapping interests to bring them into compliance with our ownership restrictions.³⁰² Therefore, we are adopting rules that permit incumbent LECs and cable companies to participate fully in the auction of 1,150 megahertz licenses if they agree to divest overlapping ownership interests. LMDS licensees will have 90 days from the date of the final grant of their license to submit to the Commission an application to assign or transfer control of the conflicting portion of its LMDS license or to certify that it has come into compliance with the Commission's eligibility restriction in Section 101.1002(a) of the Commission's Rules.

195. As discussed below, we are providing LMDS licensees additional flexibility to disaggregate their LMDS licenses into smaller spectrum blocks. However, we will not permit licensees to use disaggregation as a means of divesting overlapping ownership interests to comply with the attribution rules for LMDS. The substantial flexibility LMDS licensees will have to use their spectrum to provide any service that is consistent with the broad technical parameters established for this service would make it impossible to develop and enforce a system that uses a reduction in the amount of licensed spectrum as an objective measure of compliance with our ownership restrictions. We note, however, that a licensee may transfer a portion of its ownership interest in order to meet the attribution limitations for LMDS. In addition, licensees will be permitted to geographically partition their spectrum in order to come into compliance with our eligibility restrictions.

196. We tentatively concluded in the *Fourth NPRM* that any restrictions on incumbent LECs and cable companies should be temporary, and proposed two alternatives. First, the restrictions could end when competition in the relevant market, LEC or MVPD, is such that the incumbent no longer has market power. Second, the restrictions could end on a date certain, such as three to five years hence, when it would be reasonable to assume that the market power of the incumbents would have been reduced sufficiently to allay our competitive concerns about their participation in the LMDS market. Those commenters that support limited restrictions generally agree with the concept of a competition-based test to end restrictions on incumbents. There is no

³⁰¹ See FTC Reply Comments to *Fourth NPRM* at 11.

³⁰² Such flexibility should be particularly useful for those rural LECs that may have overlapping ownership interests in a BTA. Although we anticipate that most rural LECs would not have sufficient overlap of their authorized service area with the LMDS service area to be affected by the eligibility restrictions we are adopting, the additional flexibility to divest such overlapping ownership interests should further ameliorate any potential negative impact on these entities.

consensus, however, on the best means of measuring when competition is sufficient to permit incumbent entry.

197. WebCel, for example, while recognizing the limitations of using the competitive checklist for RBOC entry into the inter-LATA and long distance markets for all LECs, and the four-pronged test for effective cable competition in Section 623(l) of the Communications Act, would nonetheless use these tests because they would be relatively simple to apply.³⁰³ CPI, however, argues that neither of these tests is appropriate and that instead the Commission should place the burden on incumbents to demonstrate in each case that effective competition exists and would continue even if the incumbent were to enter the market as an LMDS licensee.³⁰⁴ Only two commenters address the question of establishing a sunset date for incumbent restrictions, CPI and RioVision. CPI opposes establishing a sunset as too arbitrary and suggests instead that the Commission establish a date certain by which it would reevaluate the need for the restrictions.³⁰⁵ RioVision comments that five years may be a reasonable date on which to end the restrictions.³⁰⁶

198. We agree with those parties arguing that the competitive checklist would be inappropriate for use in determining whether conditions are suitable to allow LEC acquisition of in-region LMDS licenses. We think that there will be sufficient entry and increases in competition in the markets at issue here for us to be able to sunset the restrictions on incumbent LECs and cable companies three years after the effective date of the LMDS rules. Based on our assessment of the state of LMDS technology and estimates of when entry into the LEC and cable markets is likely, we believe three years is an appropriate initial period to keep these restrictions in place. Further, we have a statutory obligation to review all regulations every two years, beginning in 1998, to determine whether competition has increased sufficiently to make these regulations unnecessary.³⁰⁷ Therefore, we will undertake a review of these eligibility restrictions and the relevant competitive developments in 2000 to determine if sufficient competition has emerged to allow sunset of the LMDS restrictions. The restrictions may be extended if we determine that the incumbent LEC or cable company still have substantial market power in the provision of those services.

³⁰³ WebCel Comments to *Fourth NPRM* at 25.

³⁰⁴ CPI Comments to *Fourth NPRM* at 14-15.

³⁰⁵ *Id.* at 15.

³⁰⁶ RioVision Comments to *Fourth NPRM* at 3.

³⁰⁷ 47 U.S.C. § 161.

199. In addition, we recognize that some incumbent LECs or cable companies might be able to show earlier than three years after the effective date of the rules we are adopting in this Order that the actual conditions in a particular market are sufficiently competitive and rivalrous so that the restriction is no longer necessary promote competition in the telecommunications marketplace.³⁰⁸ In considering a petition for waiver of or forbearance from the restriction, we will generally be guided by the *1992 Merger Guidelines*³⁰⁹ because the competitive effects of an acquisition by an incumbent LEC or cable company of an in-region LMDS license are likely to be similar to the effects of a merger between that company and an actual or hypothetical company whose principal competitive asset is that license. In particular, some of the factors we will consider in determining whether a particular market actually is sufficiently competitive at the time of the petition are:

- (1) the number and capacity of competing providers of local telephone or multichannel video services, especially those with independent means of distribution, that are available to a significant number of consumers in the geographic region at issue;
- (2) the substitutability of the services of those competing providers with the local telephone and multichannel video services offered by the incumbent LEC or cable firm;
- (3) evidence as to whether the LEC or cable company could or would lose a significant portion of its subscribers to its competitors if it unilaterally increased its prices or lowered the quality of its services;
- (4) the regulatory environment for competing providers in the relevant geographic region; and
- (5) whether the LEC or cable company has in fact experienced a significant loss in market share due to the entry of new competitors or the expansion of existing competitors.³¹⁰

If the LEC or cable company is successful in making such a demonstration, then such showing will constitute a sufficient basis for the Commission to waive or forbear from applying the

³⁰⁸ See para. 159, *supra*.

³⁰⁹ See Department of Justice & Federal Trade Commission, *Horizontal Merger Guidelines* (Apr. 2, 1992), *reprinted in* 4 Trade Reg. Rep. (CCH) ¶ 13,104 (Apr. 7, 1992) (*1992 Merger Guidelines*).

³¹⁰ See Policy and Rules Concerning the Interstate, Interexchange Marketplace, CC Docket No. 96-61, Second Report and Order, FCC 96-424, released Oct. 31, 1996, at paras. 21-28; Motion of AT&T To Be Classified as a Non-Dominant Carrier, Order, 11 FCC Rcd 3271, 3303-09 (paras. 57-73) (1995).

eligibility restrictions that apply to that LEC or cable company. We will entertain such showings after the initial award of licenses.

5. Flexible Service and Framework for Licensing

a. Scope of Services

(1) Background; Comments

200. In the *First NPRM*, we proposed to redesignate the 28 GHz band from a fixed common carrier point-to-point microwave service to a local multipoint distribution service that would include non-common carrier services.³¹¹ We found that the band was not being utilized, that petitioners had demonstrated an ability to use it for MVPD, and that such use would serve the public interest. We proposed to implement LMDS under flexible rules that would allow a licensee to provide a video programming or telecommunications service and provide sufficient flexibility to accommodate different types of point-to-point and point-to-multipoint communications services.

201. To accommodate the expanded service definition, we proposed to allow licensees to provide not only a common carrier service, but also a non-common carrier service. We pointed out that this would be consistent with our regulation of MDS and certain domestic satellites, which allow the election of common carrier or non-common carrier status.³¹² We proposed that the LMDS provider elect its regulatory status as a common or non-common carrier based on the nature of the service offerings under the definitions established in *NARUC I*.³¹³ LMDS providers would choose to operate as a common or non-common carrier on a channel-by-channel or cell-by-cell basis. We requested comments.

202. In the *Third NPRM*, we considered the comments filed to the *First NPRM*. They expect LMDS to include video distribution, broadband video telecommunications, and two-way data and voice subscriber-based services, and support the flexibility to choose authorization on a common carrier or non-common carrier basis in order to choose the category of services they

³¹¹ *First NPRM*, 8 FCC Rcd at 557-61 (paras. 1-3, 14).

³¹² Domestic Fixed-Satellite Transponder Sales, CC Docket No. 82-45, Memorandum Opinion, Order and Authorization, 90 FCC 2d 1238 (1982) (*Domsat Sales Memorandum and Order*); Revisions to Part 21 of the Commission's Rules Regarding the Multipoint Distribution Service, 2 FCC Rcd 4251, 4251-53 (paras. 5-14) (1987) (*MDS Report and Order*).

³¹³ *National Association of Regulatory Utility Commissioners v. F.C.C.*, 525 F.2d 630 (D.C. Cir. 1985) (*NARUC I*).

want to offer.³¹⁴ We renewed our proposal in the *First NPRM* to allow the applicant or licensee to elect its status, based on the services it seeks to provide. However, we proposed additional licensing options requested by commenters to treat all LMDS applicants or licensees as common carriers, unless they submitted information to the contrary. We requested comments.

203. Of the comments filed in response to our service proposals in the *Third NPRM*, all agree that LMDS should be implemented to encompass both telecommunications and video programming services, and to permit maximum flexibility in allowing licensees to provide the entire array of services. They support our proposal to allow the applicant or licensee to choose its regulatory status as a common carrier or non-common carrier, based on services that it chooses to provide.³¹⁵

204. For example, CellularVision urges us to adopt a regulatory approach that freely allows a licensee to offer competitive video and telephony services without unnecessary regulatory rigidity. It asserts that its technology allows a unique flexibility to offer any combination of video, voice, and data services and to vary the mix within each cell. ComTech asserts that LMDS will not only be used for MVPD, but also in many different ways in different market situations. It asserts that the technology is extraordinarily flexible and can be configured uniquely and efficiently on a variety of bases. Ameritech contends that, because of the early level of technical development and the uncertainty regarding the services ultimately to be offered, it would be premature to force the nascent LMDS industry into a regulatory pigeonhole.³¹⁶

(2) Decision

(a) Flexible Service Definition

205. We find that it is in the public interest to adopt our proposal to implement LMDS and authorize licensees to provide non-common carrier services as well as common carrier

³¹⁴ *Third NPRM*, 11 FCC Rcd at 88 (paras. 92-93). See, e.g., Ameritech Comments to *First NPRM* at 4-11; CellularVision Comments to *First NPRM* at 5-6, 25-32; GTE Comments to *First NPRM* at 12-13; Pacific Telesis Comments to *First NPRM* at 3; TDS Comments to *First NPRM* at 8-10; US West Comments to *First NPRM* at 4-10; Video/Phone Comments to *First NPRM* at 8-10.

³¹⁵ Ameritech Comments to *Third NPRM* at 5; Bell Atlantic Comments to *Third NPRM* at 7; BellSouth Comments to *Third NPRM* at 8; CellularVision Comments to *Third NPRM* at 20-22; ComTech Comments to *Third NPRM* at 5; Emc³ Comments to *Third NPRM* at 7; GTE Comments to *Third NPRM* at 7; NCTA Comments to *Third NPRM* at 5; PTWBS Comments to *Third NPRM* at 2; RioVision Comments to *Third NPRM* at 3; TI Comments to *Third NPRM* at 15-16; Titan Comments to *Third NPRM* at 3; WCA Comments to *Third NPRM* at 3.

³¹⁶ CellularVision Comments to *Third NPRM* at 21; ComTech Comments to *Third NPRM* at 5; Ameritech Comments to *Third NPRM* at 5.

services. We agree with commenters that it is essential to adopt a broad service definition for LMDS that encompasses the wide variety of services not only contemplated by commenters, but also developed in the future after service is initiated. Commenters establish that the nature and extent of potential services is broad and changing. Since our initial proposals in the *First NPRM*, new advances in wireless technology have made possible a greater variety of interactive telecommunications and video services. Moreover, the 1996 Act embodies a national telecommunications policy which requires that we promote competition in telecommunications markets through removing regulatory barriers to entry, encouraging technological developments, and ensuring that consumer demand is met. By authorizing licensees to provide non-common carrier services as well as common carrier services, we ensure that licensees can meet all service demands.

206. Since the *First NPRM*, we have enhanced the flexibility of licensees in other wireless services that have broad service definitions that include common carrier and non-common carrier services. In adopting a new application form for MDS, we confirmed that MDS includes alternative services and we provided applicants the option on the new form to indicate their choice for common carrier or non-common carrier regulatory status.³¹⁷ For satellite services, we have determined to provide all U.S.-licensed fixed satellite service systems with a choice between offering common carrier and non-common carrier services and the opportunity also to elect their regulatory classification in their applications.³¹⁸ In another proceeding, we have adopted streamlined rules in Part 25 for satellite services to use a simplified procedure to change licenses from non-common carrier status to common carrier status.³¹⁹ When we implemented DBS systems under interim rules we adopted a policy to permit the dual provision of common and non-

³¹⁷ Amendment of Parts 21 and 74 of the Commission's Rules with Regard to Filing Procedures in the Multipoint Distribution Service and in the Instructional Television Fixed Service, MM Docket No. 94-131, and Implementation of Section 309(j) of the Communications Act - Competitive Bidding, PP Docket No. 93-253, Report and Order, 10 FCC Rcd 9589, 9619 (para. 59), Appendix D (1995) (*MDS and ITFS Competitive Bidding Report and Order*).

³¹⁸ Amendment to the Commission's Regulatory Policies Governing Domestic Fixed Satellites and Separate International Satellite Systems, IB Docket No. 95-41, Notice of Proposed Rulemaking, 10 FCC Rcd 7789, 7795-96 (paras. 30-33) (1995), Report and Order, 11 FCC Rcd 2429, 2436 (paras. 45-50) (1996) (*DISCO I Report and Order*).

³¹⁹ Streamlining the Commission's Rules and Regulations for Satellite Application and Licensing Procedures, IB Docket No. 95-117, Notice of Proposed Rulemaking, 10 FCC Rcd 10624 (1995), Report and Order, FCC 96-425, released Dec. 16, 1996 (paras. 32-34) (*Satellite Rules Report and Order*).

common carrier services,³²⁰ which continues under the permanent rules.³²¹ The flexibility we adopt for LMDS is consistent with the treatment accorded these services.

207. To ensure the flexibility in LMDS service offerings that commenters seek and we proposed, we will permit any fixed terrestrial uses that can be provided within the technical parameters for LMDS. We conclude that, for now, our significant allocation of spectrum under such a broad and flexible service definition should permit licensees to satisfy a broad array of their customers' communications needs, whether through one or multiple service offerings. Although LMDS is allocated as a fixed service, we know of no reason why we would not allow mobile operations if they are proposed and we obtain a record in support of such an allocation.³²² We believe this would be consistent with our goal of providing LMDS licensees with maximum flexibility in designing their systems. We have authorized other wireless services to include mobile and fixed services, depending on whether developments in the service and related equipment demonstrate a need for changing the rules and a capability for mobile and fixed services to coexist in these bands.³²³

208. We give applicants and licensees the flexibility to design their service offerings in response to market demand. The service offering that is selected would determine the extent to which the applicant or licensee is subject to regulation. If a service offering falls within the statutory definition that encompasses common carrier status, the application and the subsequent license is subject to Title II and the common carrier licensing requirements of Title III of the Act and our Rules. Otherwise, services are provided on a non-common carriage basis, and the application and the licensee would be subject to Title III and certain other statutory and regulatory requirements, depending on the specific characteristics of the service. A licensee is required to adhere to the pertinent requirements in conducting its operations, depending on whether the operations are common carriage or not.

³²⁰ Inquiry into the Development of Regulatory Policy in Regard to Direct Broadcast Satellites for the Period Following the 1983 Regional Administrative Radio Conference, Gen. Docket No. 80-603, Notice of Proposed Policy Statement and Rulemaking, 86 FCC 2d 719, 750 (1981), Report and Order, 90 FCC 2d 676, 706 (1982) (*Interim DBS Report and Order*), *aff'd sub nom.* National Assoc. of Broadcasters v. F.C.C., 740 F.2d 1190 (1984).

³²¹ Revision of Rules and Policies for the Direct Broadcast Satellite Service, IB Docket No. 95-168, PP Docket No. 93-253, Notice of Proposed Rulemaking, 11 FCC Rcd 1297 (1995), Report and Order, 11 FCC Rcd 9712 (1995).

³²² We would at that time also revisit our decision not to include LMDS in CMRS spectrum for purposes of the spectrum cap.

³²³ Amendment of Part 95 of the Commission's Rules to Allow Interactive Video and Data Service Licensees to Provide Mobile Service to Subscribers, WT Docket No. 95-47, Report and Order, 11 FCC Rcd 6610 (1996) (*IVDS Report and Order*); *CMRS Flexible Service Report and Order*, 11 FCC Rcd at 8965.

209. Telecommunications services and video programming distribution services have been identified by commenters as the likely uses for LMDS spectrum over the short term. Since our issuance of notices of proposed rulemaking in this proceeding, the regulatory status of these and related services has been addressed and modified in the 1996 Act. The impact of the 1996 Act on the nature of these services for LMDS is discussed below to assist applicants in determining their choice of regulatory status.

(b) Telecommunications Services

210. A wide array of telecommunications services may be provided in LMDS, including one-way and two-way voice and data services and video conferencing. It is expected that many may be offered in the local telephony marketplace as an alternative to the wired telephone network. In their comments, telephone service providers argue that providers of telecommunications service under an LMDS license should be treated as common carriers subject to Title II requirements in the same manner as other telecommunications services.³²⁴

211. The 1996 Act provides that a telecommunications carrier will "be treated as a common carrier under this Act only to the extent that it is engaged in providing telecommunications services."³²⁵ A telecommunications service is the "offering of telecommunications for a fee directly to the public, or to such classes of users as to be effectively available directly to the public, regardless of the facilities used."³²⁶ Telecommunications means "the transmission, between or among points specified by the user, of information of the user's choosing, without change in the form or content of the information as sent and received."³²⁷ We adopted these definitions in new Part 51, which provides the rules governing interconnection of such carriers.³²⁸ Thus, to the extent an LMDS licensee is providing a service that fits within these definitions, that licensee is subject to Title II and it is governed by the common carrier requirements pertinent to its services and set out in our rules.

212. The 1996 Act established certain general duties pursuant to which telecommunications carriers must interconnect with other telecommunications carriers. It also established certain requirements under which LECs must provide interconnection to all telecom-

³²⁴ GTE Comments to *Third NPRM* at 7; Video/Phone Comments to *First NPRM* at 11.

³²⁵ 47 U.S.C. § 153(44).

³²⁶ 47 U.S.C. § 153(46).

³²⁷ 47 U.S.C. § 153(43).

³²⁸ *Local Competition First Report and Order*, at para. 992 and Appendix B (adopting new Rule 51.5).

munications carriers. In implementing these provisions, we held that all telecommunications carriers that compete with each other should be treated alike regardless of the technology used.³²⁹ Thus, to the extent an LMDS common carrier licensee is a telecommunications carrier, it is governed by the general duties set out in new Rule 51.100 that provide for interconnection with other telecommunications carriers. Such a carrier would also be required to adhere to any other provisions in Part 51 that may be pertinent to a telecommunications carrier. To the extent that such an LMDS provider would meet the definition of a LEC, it also would be governed by the obligations applicable to all LECs in Subpart C of Part 51 of our rules.³³⁰

**(c) Video Programming Distribution and
Other Non-Common Carrier Services**

213. To the extent licensees are not offering telecommunications services or common carrier services as set forth in *NARUC I*, they will not be regulated as common carriers. Thus, if licensees transmit information that is not of the user's choosing or offer telecommunications only for internal purposes, the licensees are exempt from Title II to the extent of such service. Such services would include MVPD to subscribers, since such services would not involve information of the user's choosing.³³¹ We proposed that applicants be allowed to choose to be licensed on a non-common carrier basis in order to meet the demand for MVPD to subscribers. We have recognized that LMDS represents a potential technology to compete with wired cable television systems and that the LMDS frequencies may be used to deliver multichannel video programming.³³² Such services also would include private uses of the spectrum for internal purposes. Although we did not specifically propose to license LMDS in the performance of private microwave services, purely internal uses are inherently permitted under an authorization that allows non-common carrier services to be provided.

214. The 1996 Act adopts a new section in Title VI that provides for the regulatory treatment of video programming services by wireless providers. Specifically, Section 651(a)(1) provides that, to the extent a common carrier or any other person is providing video programming to subscribers using radio communications, "such carrier (or other person) shall be subject to the requirements of Title III and Section 652, but shall not otherwise be subject to the requirements

³²⁹ *Id.* at para. 993.

³³⁰ *Id.* at Appendix B (adopting 47 CFR § 51.100, Subpart C).

³³¹ An MVPD is defined in Section 602(13) of the Communications Act to mean "a person such as, but not limited to, a cable operator, a multichannel multipoint distribution service, . . . who makes available for purchase, by subscribers or customers, multiple channels of video programming." 47 U.S.C. § 602(13).

³³² *1996 Cable Competition Report*, at paras. 2, 65-66.

of this title."³³³ We interpret Section 651(a)(1) as setting forth all applicable sections of the statute. Because Section 651(a)(1) does not include a reference to Title II, we believe that a person providing video programming to subscribers using radiocommunications would not be subject to Title II of the Act. We note that the next provision in Section 651(a)(2) specifically provides for Title II regulation in addressing non-radio based services.

215. It appears that, to the extent an LMDS licensee provides MVPD, the intent of the statute is to regulate the service on a non-common carriage basis. This is consistent with the regulatory classification we assigned to video programming in adopting election rules for MDS³³⁴ and to those services that did not qualify as common carriage in adopting election rules for satellite services.³³⁵ It is also consistent with our consideration of the video programming service options available to telephone companies under the 1996 Act. We have stated that Section 651(a)(1) offers them the option to "provide video programming to subscribers through radio communication under Title III," while Section 651(a)(2) offers the option to "provide transmission of video programming on a common carrier basis under Title II."³³⁶

216. As a wireless service provider, the LMDS licensee providing video programming services is not subject to franchising or regulation as a cable system under Title VI of the Act, other than Section 652, or under the Commission's Cable Rules in Part 76. As noted above, Section 651(a)(1) specifically excludes a radio-based system from the other provisions of Title VI for cable communications, apart from Section 652.

217. The 1996 Act removed the statutory ban on telephone companies' offering video programming in their service areas and repealed our previous rules and policies for telephone-network video systems, known as video dialtone.³³⁷ Thus, our request for comments in this proceeding regarding how the video dialtone policies might affect common carrier LMDS providers is moot. In addition to the video programming service options in Sections 651(a)(1) and (2) discussed above, the 1996 Act added Section 653 to the Communications Act establishing OVS as a new framework for telephone companies to enter into the video programming marketplace.

³³³ 1996 Act § 651, 47 U.S.C. § 571.

³³⁴ *MDS Report and Order*, 2 FCC Rcd at 4252 (para. 8).

³³⁵ *Domsat Sales Memorandum Opinion and Order*, 90 FCC 2d at 1245, 1259 (paras. 1, 22, 52).

³³⁶ Implementation of Section 302 of the Telecommunications Act of 1996 - Open Video Systems: CS Docket No. 96-46, Telephone Company-Cable Television Cross-Ownership Rules, Sections 63.54-63.58: CC Docket No. 87-266 (terminated); Report and Order and Notice of Proposed Rulemaking, 11 FCC Rcd 14639, 14640 (para. 3) (1996) (*OVS Notice*).

³³⁷ 1996 Act §§ 302(b)(1), 302(b)(3).

Section 653 permits LECs and others to provide cable service to subscribers through an OVS that complies with the special provisions of the section.³³⁸ OVS is not subject to common carrier regulation under Title II and is entitled to reduced cable regulation under Title VI. We have adopted rules in Part 76 of our rules to implement the requirements for establishment and operation of an OVS, and we have interpreted Section 653 as allowing even non-LECs to operate an OVS.³³⁹ Section 651(a)(4) specifically permits a common carrier to elect to provide video programming by means of an OVS.³⁴⁰ Thus, an LMDS licensee that is a common carrier could elect to provide video programming under the OVS rules, rather than on a non-common carrier basis under the LMDS rules.

b. Regulatory Framework for Licensing LMDS

(1) Background; Comments

218. In the *First NPRM*, we proposed to adopt procedures similar to those for MDS to permit the LMDS applicant or licensee to choose whether it will operate as a common carrier or non-common carrier.³⁴¹ We proposed an election mechanism for a licensee to follow whenever it wanted to change its regulatory status between common carrier and non-common carrier.³⁴² Under the mechanism, the applicant or licensee would choose whether to operate as a common or non-common carrier on a channel-by-channel and on an individual cell basis and notify the Commission accordingly. Authority would be issued on either a common carrier or a non-common carrier basis, as requested by the applicant. Areas and channels not on record as having non-common carrier status would be presumed to have common carrier status. Licensees would be required to maintain an accurate record of their status elections with the Commission. Changes in status were to be reported within 10 days of the effective date of the change.

³³⁸ 1996 Act § 653, 47 U.S.C. § 573.

³³⁹ Implementation of Section 302 of the Telecommunications Act of 1996 -- Open Video Systems, CS Docket No. 96-46, Second Report and Order, 11 FCC Rcd 2945 (1996) (*OVS Second Report and Order*), Third Report and Order and Second Order on Reconsideration, FCC 96-334, released Aug. 8, 1996 (*OVS Third Report and Order and Second Reconsideration*).

³⁴⁰ Section 651(a)(4) of the Communications Act, 47 U.S.C. § 571(a)(4), provides, in part:

ELECTION TO OPERATE AS OPEN VIDEO SYSTEM-- A common carrier that is providing video programming in a manner described in paragraph (1) or (2), or a combination thereof, may elect to provide such programming by means of an open video system that complies with section 653.

³⁴¹ *First NPRM*, 8 FCC Rcd at 568, Appendix B.

³⁴² *Id.* at 569, Appendix B, Proposed Rule § 21.1003.

Common carrier licensees would be required to follow the special discontinuance procedures we adopted for MDS when they changed status.³⁴³ In the *Third NPRM*, we proposed additional options in which we would presume all services to be common carriage, unless the applicant demonstrated otherwise.³⁴⁴

219. As discussed above, commenters urge us to adopt a flexible regulatory framework for authorizing LMDS that allows the broadest possible performance of services with the least amount of regulatory interference.³⁴⁵ None of the commenters believes that a presumption of common carrier status is appropriate. Bell Atlantic and CellularVision contend that, if a presumption of regulatory status has to be applied to LMDS providers, it should be non-common carrier status because the near-term use would be for distribution of multichannel video programming.³⁴⁶ BellSouth argues that we should not prejudge the regulatory status of the services yet to evolve, while GTE contends that LMDS should be designed such that competitive market forces are the controlling factors.³⁴⁷

220. Commenters, however, request that we ensure that licensees operate in a manner consistent with their claimed regulatory status. BellSouth asserts that a provider's decision to elect common or non-common carrier status is irrelevant unless the provider actually operates consistently with that choice. It agrees with our proposal that applicants be required to describe the service they propose to offer in sufficient detail for us to confirm that the status elected is consistent with how the carrier will actually operate. It asserts that the Commission is obligated to retain oversight of compliance with the statutory and judicial standards for status based on the type of service offered.³⁴⁸

(2) Decision

221. We adopt a regulatory framework for LMDS that permits the full array of LMDS service offerings without undue regulatory restraint. To achieve our goal, our framework reflects not only the flexibility included in our proposals, but also the statutory, regulatory, and technical changes that have taken place since then to enhance the climate for competition. Our goal is to

³⁴³ 47 CFR § 21.910.

³⁴⁴ *Third NPRM*, 11 FCC Rcd at 88-89 (paras. 94-96).

³⁴⁵ See paras. 203-204, *supra*.

³⁴⁶ Bell Atlantic Comments to *Third NPRM* at 7; CellularVision Comments to *Third NPRM* at 21.

³⁴⁷ BellSouth Comments to *Third NPRM* at 8; GTE Comments to *Third NPRM* at 8.

³⁴⁸ BellSouth Comments to *Third NPRM* at 8.

maintain an open and flexible approach that will allow the business judgments of individual LMDS applicants and licensees to shape the nature and components of the services offered pursuant to LMDS licenses.

222. Thus, we agree with commenters not to apply a presumption of common carrier status to an application. The presumption is unnecessarily restrictive and an inaccurate reflection of the variety of services available in LMDS. We also decline to adopt our proposal to require the applicant to indicate its choice for regulatory status on a channel-by-channel or cell-by-cell basis. LMDS licenses will be based on BTA geographic service areas. Our goal is to provide a sufficiently large service area for each licensee to design systems to meet consumer needs on a local or regional basis, without regulatory concern for the individual channel or cell involved. Licensees are permitted to construct stations and place them in operation anywhere within their authorized geographic areas at any time, unless there are requirements otherwise in our rules that would necessitate the filing of an individual application for separate authorization of a station. An LMDS licensee may be required to adhere to the following filing or authorization requirements in modifying a station: (1) in Section 1.1301 through 1.1319 concerning actions that may have a significant impact on the quality of the human environment, (2) in Sections 22.369 and 101.123 concerning radio frequency quiet zones, (3) Part 17 of our rules concerning antenna structure clearance procedures and the obligation under Section 17.4 to register with the Commission prior to construction, (4) any restrictions regarding border areas under international agreements, and (5) any applicable technical rules in this part.³⁴⁹

223. In addition, we do not adopt our proposal to require applicants to describe the services they seek to provide. It is sufficient that the applicant indicate its choice for regulatory status in a streamlined application process. The extent and nature of the services to be provided under the respective classifications are matters for the licensee to decide and not for the Commission to consider in granting a license. As we recently stated, an applicant is to rely on the realities of the services to be provided in electing the appropriate regulatory status.³⁵⁰ In providing guidance to MDS applicants, we pointed out that an election to provide service on a common carrier basis requires that the elements of common carriage be present; otherwise, the service is non-common carriage.³⁵¹

224. As commenters point out, we rely on the designation by an applicant of its status as a common carrier or non-common carrier to enable us to fulfill our obligations to enforce the common carrier requirements of the statute and our regulations. We have stated that our need for

³⁴⁹ 47 CFR §§ 1.1301-1307, 22.369, 101.123, 17.4.

³⁵⁰ *DISCO I Report and Order*, 11 FCC Rcd at 2436 (para. 49).

³⁵¹ *MDS Report and Order*, 2 FCC Rcd at 4252 (para. 12).

applicants to elect their regulatory classification in their applications serves informational purposes to enable us to determine whether to apply Title II or other statutory requirements to the application and the subsequent operations.³⁵²

225. We also decline to require an applicant to choose between either common carrier or non-common carrier status in providing services under the broad license to be issued. We find it is inconsistent with the broad service definition and the flexible operations we adopt for LMDS to require the licensee to forgo one category of service for the other category. Licensees may well provide services that include elements of both common carrier and non-common carrier services. Instead, we will permit LMDS to be licensed to allow both common carrier and non-common carrier services in a single license. Thus, under our framework an applicant may request both common carrier and non-common carrier status in the same application, which will result in the issuance of both authorizations in a single license. The licensee will be able to provide all LMDS services anywhere within its licensed area at any time, consistent with the statutory and regulatory requirements that are imposed on the respective operations. It is the licensee's obligation to maintain the various operations in compliance with the requirements.

226. We conclude that this flexible approach to licensing and regulatory status achieves efficiencies in the application and administrative process, as well as in the licensee's performances. We have allowed certain mobile services in Part 24 and Part 90 to be authorized in a single license on both a common carrier and private carrier basis in order to provide services in both categories of service.³⁵³ Alternatively, the applicant may wish to limit its operations to common carrier or non-common services, in which case it would apply only for authorization on a common carrier or a non-common carrier basis, and the license would be issued for the status specified.

227. We discuss below the specific procedures and rules we adopt to implement the flexible framework for the licensing and operations of LMDS.

6. Application and Operating Rules and Procedures for LMDS

a. Background; Decision

228. We proposed to implement service rules for LMDS in Part 21 of the Commission's Rules that contained the rules for fixed microwave services. On February 29, 1996, we adopted a new Part 101 that consolidates all of the common carrier microwave services, except MDS, from Part 21 together with the private microwave services in former Part 94 under one set of

³⁵² *DISCO I Report and Order*, 11 FCC Rcd at 2436 (para. 50).

³⁵³ *CMRS Second Report and Order*, 9 FCC Rcd at 1459 (paras. 115, 119); 47 CFR § 20.9(b).

streamlined rules for all fixed microwave services.³⁵⁴ MDS remains regulated under Part 21, which has been amended in a separate proceeding.³⁵⁵

229. We will include the service rules for LMDS in Part 101. As proposed in the *First NPRM*, we adopt a new Subpart L to be added for LMDS that will include the procedures specific to its licensing and operations, as discussed below.³⁵⁶ We will otherwise modify the general provisions of Part 101 where necessary to include LMDS. The revised rules are in Appendix A of this Order. In Subpart A of Part 101, we adopt the definitions of LMDS proposed in the *Third NPRM*. In Subparts C and D, we modify the technical standards and operations discussed elsewhere in this Order. As for the application and licensing rules in Subpart B and the operating rules in Subpart E, we modify them to reflect the procedures we adopt in Subpart L to implement the broad service definition and flexible regulatory classifications for LMDS carriers.

230. The licensing and operating rules and procedures for LMDS are discussed below, based on the rules proposed in the *First NPRM* and the changes we adopt above in response to the comments for a flexible service definition and simplified status election procedures. To the extent any of the comments addressed the proposed rules, the remarks were included in the comment summaries we provided above in the background of our previous discussion. The proposed rules in the *First NPRM* were drafted for inclusion in Part 21 and relied on many of the general rules, as well as the MDS-specific rules, for processing applications and changing status. However, when we consolidated all of the Part 21 microwave services except MDS into new Part 101 and adopted the Part 21 rules for the removed services, we modified the rules for Part 101 to limit their provisions to common carriers. This effectively eliminated their applicability to the non-common carrier LMDS services, as originally proposed. Many of the amendments we adopt below in Part 101 are to reinstate the original scope of the rule from Part 21 insofar as it was proposed for LMDS.

b. Application Forms

231. In the *First NPRM*, we proposed a lengthy rule with numerous provisions for the content and form of applications for new LMDS systems and for the modification of existing licenses.³⁵⁷ It provided for the number of pages, the contents of the certifications and other required information, and several exhibits. The exhibits included a service proposal indicating

³⁵⁴ *Part 101 Report and Order*, 11 FCC Rcd at 13451.

³⁵⁵ *MDS and ITFS Competitive Bidding Report and Order*, 10 FCC Rcd 9589.

³⁵⁶ *First NPRM*, 8 FCC Rcd at 568, Appendix B.

³⁵⁷ *Id.* at 564 (paras. 42-44), 569, Appendix B, Proposed Rule § 21.1004.

how the applicant determined the needs of the public and intended to provide service, a statement of public interest, and a system design. The rule also proposed that an applicant submit FCC Form 494, the application form used in Part 21.

232. Many changes have occurred since the *First NPRM*, as reflected in this Order, to invalidate the proposed rule. As discussed in Section II.D., *infra*, we adopt competitive bidding rules and procedures to select from among competing applications if two or more entities file mutually exclusive initial applications. Consequently, all applicants for initial LMDS authorization now are required, first, to submit a short-form application (FCC Form 175) as described under the rules governing competitive bidding procedures in Subpart Q of Part 1 of our rules.³⁵⁸ An applicant subsequently files a long-form application that is specific to the service only if it is the winning bidder after an auction is held or, in cases of no mutual exclusivity, it is the sole applicant. Here, we are discussing the long-form application to be used in LMDS.

233. When we consolidated our fixed microwave service rules into new Part 101 in the *Part 101 Report and Order*, we adopted in new Section 101.15 the application forms from Part 21 and proposed for LMDS.³⁵⁹ However, we determined to replace application Form 494 with a unified application form for all the services consolidated into Part 101.³⁶⁰ The new form would reflect a simplified procedure for use by all Part 101 applicants and would provide for all the necessary information, replacing the need for the specificity in the proposed LMDS application rule. It also would reflect our elimination in the *Part 101 Report and Order* of several application showings that we included in the proposed LMDS rule, including the financial showing, the public interest showing, and other managerial showings.³⁶¹ We also determined to incorporate in the Form 494 replacement the essential ownership information from Form 430, which we would eliminate. We also eliminated the use of Form 494A and the requirement to certify completion of construction.

234. On February 3, 1997, we implemented new FCC Form 415 for Part 101 to be used for initial applications, amendments to applications, and modifications to licenses and for providing all of the essential information for issuing a license and enforcing compliance with any pertinent regulations.³⁶² However, we do not adopt the use of Form 415 for LMDS. We find that

³⁵⁸ 47 CFR §§ 1.2101-1.2111.

³⁵⁹ 47 CFR §§ 21.7, 21.11.

³⁶⁰ *Part 101 Report and Order*, 11 FCC Rcd at 13458 (para. 17).

³⁶¹ *Id.* at 13453 (para. 7).

³⁶² Public Notice, Wireless Telecommunications Bureau Announces Schedule for Implementation of New FCC Form 415, released Feb. 3, 1997.

Form 600 used for other wireless services is more suitable for LMDS, providing for expedited filing and electronic processing that is not yet implemented for Form 415. In all other respects, Form 600 is similar to Form 415, in that it encompasses the versatility of uses and enables the streamlined filing procedures intended for LMDS and available to other Part 101 applicants in Form 415. We will modify Form 600 to include LMDS and reflect the filing procedures we adopt for LMDS and discuss below.

235. We adopt new Section 101.1013 to identify the application forms to be used for LMDS. Form 600 is used for the filing of an initial application, as well as an application to amend a pending application and to modify an existing license. Form 600 also is to be submitted for notification within 30 days of the addition, removal, relocation, or other modification of any stations in a licensee's authorized area. Although licensees are free to establish or modify operations anywhere within their licensed area at any time, it is necessary that we have on file updated information on the technical aspects of any operations under our jurisdiction for enforcement and other purposes and not, as here, for authorization.³⁶³ Section 101.15 provides for the use of Form 405 for renewal of station license, Form 702 for assignment of license, and Form 704 for transfer of control, which we will include for LMDS use. We do not include a form for the partial assignment of license also in Section 101.15, inasmuch as the extent to which a license may partition or disaggregate its license is a matter that is pending in the Fifth Notice of Proposed Rulemaking we adopt in this proceeding.

c. Public Notice

236. We did not specifically provide for public notice for LMDS filings in our proposed rules in the *First NPRM*. Filings would have been governed by the general provisions in Part 21, which provide a 30-day notice period for initial applications, major amendments, and certain modifications and provide for the filing of petitions to deny.³⁶⁴ In consolidating the rules in Part 101, we adopted the same public notice provisions in Section 101.37 and, for petitions to deny, in Section 101.43.³⁶⁵

³⁶³ We adopt new Section 101.1009 to identify those instances in which an licensee may be required to file an individual application for a modification of its station or otherwise may not rely solely on the notification within 30 days of any changes in its operations as sufficient to allow those changes.

³⁶⁴ 47 CFR §§ 21.27, 21.30.

³⁶⁵ In the *Part 101 Report and Order*, we eliminated our rule in Section 1.962(a) that imposed the 30-day notice period on applications for private fixed point-to-point microwave service. However, that action was mandated by the Telecommunications Act of 1996 and is not pertinent to our discussion here, which pertains to a non-common carrier service that does not fit the definition of private microwave service under Part 101 and is a point-to-multipoint local service. *Part 101 Report and Order*, 11 FCC Rcd at 13478 (para. 82).

237. The public notice requirements are imposed in Section 309(b) of Title III of the Act on initial applications and substantial amendments thereof filed by wireless common carriers.³⁶⁶ The same provision also grants the Commission the authority to impose public notice requirements for other licenses, even though public notice is not required by the statute. We impose uniform 30-day public notice requirements in our rules governing applications in the other wireless services that provide status election procedures to allow authorization on either a common carrier or non-common carrier basis. For example, no distinction is made between applications for either status under the public notice requirements for MDS or satellite systems.³⁶⁷ When we adopted the MDS rules, we specifically determined to hold applicants or licensees electing non-common carrier status to the same licensing rules as common carriers in Part 21 and to all the application provisions of Title III.³⁶⁸

238. As in the MDS and satellite rules, we adopt our proposal to impose a uniform public notice requirement on all LMDS applications and will modify Section 101.37 to include all LMDS applications in its provisions, rather than only common carrier applications as currently required. We find that imposing the 30-day notice requirement on non-common carrier applications would not be an undue burden on such applicants, but rather would be administratively useful. This enables us to ensure that the applicant filing for both common carrier and non-common carrier authorization in a single license is in compliance with the licensing requirements for common carriers imposed in Title III.

239. Moreover, imposing the statutory requirement even on the LMDS applicant seeking initial authorization on only a non-common carrier basis facilitates our ability to ensure its flexibility as a licensee to change or add offerings under our broad service definition. In the MDS and satellite rules, we allow licensees to make subsequent status changes under reduced notification requirements. In the *First NPRM*, we proposed to allow LMDS licensees to notify the Commission ten days after the change occurred. While we discuss below the modification procedures we adopt for LMDS licensees to follow in changing status, we establish here the importance of the 30-day notice requirement on all initial applications. When we adopted the MDS rules, we pointed out that anyone objecting to status changes was on notice that it would be possible for the licensee to change status.³⁶⁹ Similarly, we expect interested parties to be on notice that any LMDS licensee is free to change its status or add to its status, and they should

³⁶⁶ 47 U.S.C. § 309(b).

³⁶⁷ 47 CFR §§ 21.27(a)(1), 25.151(a)(1).

³⁶⁸ *MDS Report and Order*, 2 FCC Rcd at 4253 (para. 16), 4254 (para. 27).

³⁶⁹ *Id.* at 4255 (para. 29).

take into account the broad service definition when the applicant files its initial application under the public notice provisions of Section 101.37.

d. Foreign Ownership Restrictions

240. In the *First NPRM*, we proposed a rule concerning the eligibility of applicants to be granted LMDS authorization.³⁷⁰ The proposed rule does not include, nor did we address, the foreign ownership eligibility restrictions on the issuance of a license, so that LMDS applicants would have been governed by the MDS provisions in Part 21. Certain foreign ownership and citizenship requirements are imposed in Sections 310(a) and 310(b) of the Act, as modified by the 1996 Act, that prohibit the issuance of licenses to certain applicants.³⁷¹ The statutory provisions are adopted in Part 101 at Section 101.7 and reflect the restrictions as they must be imposed on LMDS applicants.³⁷² Specifically, Section 101.7(a) prohibits the granting of any license to be held by a foreign government or its representative. Section 101.7(b) prohibits the granting of any common carrier license to be held by individuals that fail any of the four citizenship requirements listed.

241. By its terms, Section 101.7 applies to LMDS applicants without modification. Thus, the LMDS applicant requesting authorization only for common carrier service would be prohibited from holding a license if it met any of the additional criteria in Section 101.7(b). If the LMDS applicant requested authorization only for non-common carrier services, it could hold a license if it met the single alien ownership requirement in Section 101.7(a) regardless if it would otherwise be disqualified for a common carrier authorization. As for the LMDS applicant requesting authorization for both non-common carrier and common carrier services, it would be disqualified from a license if it met any of the criteria in Section 101.7(b). Whether the applicant is seeking only common carrier authorization in a license or in combination with a non-common carrier authorization, the provisions of Section 101.7(b) would apply in either situation and would prevent any common carrier authorization from being issued to an ineligible applicant.

242. In the filing of application under the MDS and satellite rules, we require the applicant electing non-common carrier status to submit the same information that common carrier applicants submit to address the alien ownership restrictions under Section 310(b) of the Act. In adopting the MDS rules, we directed applicants electing non-common carrier status to file Form

³⁷⁰ *First NPRM*, 8 FCC Rcd at 568, Appendix B, Proposed Rule § 21.1001.

³⁷¹ 47 U.S.C. §§ 310(a)(b).

³⁷² 47 CFR § 101.7, as amended by Amendment of Parts 20, 21, 22, 24, 26, 80, 87, 90, 100, and 101 of the Commission's Rules to Implement Section 403(k) of the Telecommunications Act of 1996 (Citizenship Requirements), Order, 11 FCC Rcd 13072 (1996), *adopting* revised Section 101.7.

430 to provide the information on ownership qualifications the same as common carrier applicants.³⁷³ We amended Section 21.11(a) of our rules to specifically impose on non-common carrier MDS licensees the obligation to file Form 430 on an annual basis in order to establish licensee qualifications. In the *Satellite Rules Report and Order*, we decided to continue to require non-common carrier applicant to provide the foreign ownership information requested of common carrier applicants in the new application form proposed for satellite services.³⁷⁴ We pointed out that the new form does not eliminate the requirement that both common carrier and non-common carrier earth and space station licensees must file an updated Form 430 whenever there are changes to a licensee's financial and legal qualifications.

243. We adopt a similar requirement for non-common carrier LMDS applicants in new Rule 101.1013(b) and require them to provide the same foreign ownership information required of common carrier applicants when they file an application. Under the regulatory flexibility accorded licensees to change status with a minimum of regulatory interference, updated information can be used whenever the licensee changes to common carrier status without imposing an additional filing when the licensee makes the change. Like common carriers, non-common carriers will be required to file an updated form whenever there are changes to the foreign ownership information as well as the other legal and financial qualifications. We would not disqualify the applicant requesting authorization exclusively to provide non-common carrier services from a license if its citizenship information reflects it would otherwise be disqualified from a common carrier license. That is not permitted under the statute. As we stated in the *Satellite Rules Report and Order*, we are requiring non-common carriers to address all the alien ownership prohibitions to better enable us to monitor all of the licensed providers in light of their ability to provide both common and non-common carrier services.³⁷⁵

e. Initial Applications

244. As stated, we are adopting use of FCC Form 600 for use as the long-form application for initial authorization, amending a pending application, modifying an existing license, and for notification within 30 days of any increase, removal, relocation, or other modification regarding stations in a licensee's authorized area. Under the flexible regulatory framework we have adopted, an applicant may request initial authorization on both a common carrier and non-common carrier basis in a single license. It may also request authorization only on a common carrier basis or a non-common carrier basis. We will modify Form 600 to include LMDS in its provisions and to permit the applicant to indicate whether it is requesting common carrier

³⁷³ *MDS Report and Order*, 2 FCC Rcd at 4253 (para. 16).

³⁷⁴ *Satellite Rules Report and Order*, at para. 43.

³⁷⁵ *Id.*

authorization, non-common carrier authorization, or both authorizations in its license. As we stated, the LMDS applicant is not required to describe its proposed services, and its choice of status is based on its own determination of the nature of its services. If an applicant is unsure of the nature of its services and whether or not they are classified as common carrier services, it may submit a petition with its application, or at any time, requesting clarification and including service descriptions for that purpose.³⁷⁶

f. Changing Regulatory Status

245. In the *First NPRM*, we proposed a status election mechanism for an applicant or licensee to change between common and non-common carrier status.³⁷⁷ We have concluded, however, that the mechanism we proposed is not consistent with the overall licensing framework we have established in this Order, and we therefore have declined to adopt the proposed mechanism.³⁷⁸ We adopt for LMDS the procedures in Part 101 for filing applications for amendments to pending applications and for modification of existing licenses, and will modify the rules to provide for amendments or modifications that seek to change, or add to, regulatory status as common carriage or non-common carriage, as discussed below.

(1) Amendments to Pending Applications

246. Section 101.29 provides for the filing of applications to amend pending applications. We will permit amendments to LMDS applications that amend the carrier status reflected on the application. An amendment may change the proposed classification from common carriage to non-common carriage, or from non-common carriage to common carriage. It also may add common carriage or non-common carriage to an initial classification request in order to amend the pending application to reflect a request for authorization in a single license to provide both common carrier and non-common carrier services.

247. We will not designate such amendments as major in order to subject the amended application to public notice, but rather treat the filing as any other amendment for expedited processing. All initial applications for LMDS authorization are being submitted to public notice

³⁷⁶ In authorizing the dual provision of common and non-common carrier service under a DBS license, we recognized that there may be classification questions to address in order to correctly impose the applicable common carrier or other statutory requirements on the applicant. We determined to resolve such questions in the context of each individual application and to rely on applicants' showing of the particular features of their proposals on a case by case basis. *Interim DBS Report and Order*, 90 FCC 2d 676, 709 (paras. 85-86, n.79).

³⁷⁷ *First NPRM*, 8 FCC Rcd at 561 (para. 26), 569 (§ 21.1003).

³⁷⁸ See paras. 221-225, *supra*.

and petitions to deny, and we have put interested persons on notice that the LMDS service definition includes both common and non-common carrier services that a licensee can provide in any combination under a simplified notification process we discuss later. In these circumstances, we find no reason to impose an additional notice period on the pending application and no reason to amend Section 101.29, which otherwise includes LMDS in its provisions.

(2) Modification Applications

248. We also permit licensees to modify their licenses in order to change, or add to, the authorized status. In determining the appropriate procedures to use, we note that licensees changing status in the MDS, satellite, or DBS rules blend the notice requirements of discontinuance with the modification process. In initially adopting the status change procedures for satellites services, we found that we could make the same public interest findings in granting the request for modification coterminously with granting authority to discontinue service.³⁷⁹ Unlike those services, we will permit LMDS licensees not only to operate exclusively as a common carrier or non-common carrier, but to provide services on both bases. Thus, we must provide a modification procedure that does not presume the underlying service will be discontinued and does not build into it the discontinuance notice requirements.

249. In recently considering the procedures for satellite licensees to change status, we decided to use different license modification procedures to accomplish the change, depending on the change requested.³⁸⁰ A change from non-common carrier status to common carrier status was determined to be a modification that does not require prior Commission authorization and would only require Commission notification after 30 days. A change from common to non-common carrier status is a modification application that requires full public notice and prior Commission approval in order to allow the discontinuance of common carriage.

250. We will not combine our discontinuance procedures with the modification procedures, but rather will adopt one streamlined process for all requests to change or add to the regulatory status of a licensee. We find that all applications to modify a licensee's status should be filed as modifications that do not require prior Commission authorization. With respect to the Title III notice requirements, we have imposed the public notice requirements on all initial applications and interested parties are on notice of the flexibility accorded licensees to change from non-common carrier to common carrier status. We also require all licensees to maintain a current record of their foreign ownership status, which allows us to assess the licensee's

³⁷⁹ *Domsat Memorandum and Order*, 90 FCC 2d at 1258 (para. 50).

³⁸⁰ *Satellite Rules Report and Order*, at para. 34 (adopting new Section 25.118(b)).

compliance with that Title III licensing requirement in the event of a change to common carrier status.

251. In these circumstances, we see no reason to require licensees changing status to be hampered by further notice requirements, except to the extent they may be discontinuing an underlying service. This is consistent with the reduced notice requirements we impose on status changes in the MDS rules, as well as the satellite rules. Section 101.61 provides for modifications that do not require prior Commission authorization, which we will modify to include LMDS licensees. Under the rule, licensees are required to notify the Commission of changes by submitting a completed application form within 30 days after the changes are made. We believe that the 30-day notification requirement is administratively useful and is appropriate for carrier classification changes, except to the extent that a status change would result in the discontinuance, reduction, or impairment of existing services. In that case, the licensee must adhere to the discontinuance requirements in Section 101.305 discussed below. We amend Section 101.61(b) to require that, if the LMDS applicant filing for a modification in its carrier classification would also be subject to Section 101.305, the applicant adhere to the filing deadlines and requirements in Section 101.305 when filing its Form 600 under Section 101.61, which are more stringent than the 30-day notification requirement in Section 101.61(b).

g. Discontinuance, Reduction, or Impairment of Service

252. In the *First NPRM*, we proposed that LMDS be subject to the special rules for discontinuance of common carrier services by MDS licensees in Section 21.910.³⁸¹ In all other respects, licensees would have been subject to the general discontinuance provisions for common and non-common carrier services in Section 21.303.³⁸² In adopting the rules in Part 101, we included them in Section 101.305.

253. Title II of the Act requires that no common carrier may discontinue, reduce or impair service without prior Commission approval.³⁸³ In conformance with this requirement, Section 101.305(b) requires a licensee subject to Title II to obtain prior authorization from the Commission pursuant to the procedures set forth in Part 63 of our rules.³⁸⁴ Thus, an LMDS

³⁸¹ *First NPRM*, 8 FCC Rcd at 569, Appendix B, Proposed Rule § 21.1003(d).

³⁸² 47 CFR § 21.303.

³⁸³ 47 U.S.C. § 214. Mobile common carriers are exempt from this requirement.

³⁸⁴ 47 CFR Part 63. We recently proposed to amend our Part 63 rules to reflect amendments to Section 214 of Title II in the 1996 Act, which would affect the existing discontinuance procedures for certain common carriers. Implementation of Section 402(b)(2)(A) of the Telecommunications Act of 1996: CC Docket No. 97-11, Notice of Proposed Rulemaking, FCC 97-6, released Jan. 13, 1997.

licensee authorized to provide common carrier service that seeks to change status to a non-common carrier or otherwise reduce its common carrier service is subject to Section 101.305(b). We find no reason to adopt the special MDS rules in Section 21.910 for discontinuance of LMDS common carrier service, which is appropriately covered by the procedures in Part 63. If the LMDS common carrier licensee filing under Section 101.305(b) is also filing under Section 101.61 to modify its classification to non-common carriage, the filing under Section 101.61 must conform with the deadlines and requirements under Section 101.305(b).

254. Section 101.305(c) requires that a licensee not subject to Title II who voluntarily discontinues, reduces or impairs its service give written notification to the Commission within seven days of the change. Thus, an LMDS licensee engaged in non-common carrier services is governed by this provision. We amend the rule to clarify the ambiguity, which states that it is for "common carrier licensees not subject to title II," and provide that, like Section 21.303(c) from which it came, "any licensee, not subject to title II" is covered. If the LMDS non-common carrier licensee is also filing under Section 101.61 to modify its classification to non-common carriage, the filing under Section 101.61 must conform with the 7-day deadline under Section 101.61.

255. The discontinuance rules require that the licensee submit the license for cancellation in the event that permanent discontinuance of service is authorized. In MDS, we exclude the licensee from this requirement and provide that the MDS license need not be surrendered for cancellation if discontinuance of either the common carrier or non-common carrier services is a result of a change of status under the MDS procedures.³⁸⁵ We amend Sections 101.305(b) and 101.305(c) to similarly exclude LMDS licenses from cancellation under such circumstances.

h. Fees

256. Fees are prescribed in Section 101.11 for applications or other filings requiring fees as set forth in Subpart G of Part 1 of the Commission's Rules. In the *First NPRM*, we pointed out that fees for filing applications are set by Congress in Section 8(a) of the Communications Act, which does not include LMDS.³⁸⁶ We proposed to adopt the fee structure of MDS, which is listed in Section 1.1105 for common carrier services, on the grounds that LMDS is a type of multipoint distribution service. We find that this is an issue appropriately to be decided by Congress. Congress has not granted the Commission the authority to amend the application fee schedule and we may not take any action to change the schedule in this proceeding.

³⁸⁵ 47 CFR §§ 21.303(b), 21.303(c).

³⁸⁶ *First NPRM*, 8 FCC Rcd at 564 (para. 50).

257. Since 1994, the Commission has implemented procedures in Subpart G of Part 1 for prescribing and collecting annual regulatory fees from all Commission licensees to recover costs incurred in carrying out our activities.³⁸⁷ We adopted the regulatory fees for fiscal year 1996 in an Order released July 5, 1996.³⁸⁸ We are required each year to consider adjustments of the fees and to add or reclassify services in the Schedule to reflect additions, deletions, or changes in the nature of services. Thus, regulatory fees for LMDS will be considered upon adoption of these rules for inclusion in the Schedule in the proposed regulatory fees for fiscal year 1997. We note that for 1996, we adopted a regulatory fee for MDS of \$140 per call sign and a similar fee for common carrier fixed point-to-point microwave service.³⁸⁹ Although regulatory parity may dictate that fees for similar services be equivalent, we have not yet determined the specific costs associated with our enforcement, policy, and rulemaking activities relating to LMDS. In order to provide interested parties with the opportunity to comment on the costs associated with the regulation of LMDS, we will address these questions in the rulemaking proceeding concerning proposed changes to the regulatory fee schedule for fiscal year 1997.

i. Equal Employment Opportunity

258. Section 101.311 requires that equal employment opportunity (EEO) must be accorded by all common carrier licensees consistent with the provisions of Section 21.307, which governs MDS. That rule imposes the EEO requirements on all MDS licensees, whether authorized to provide common carrier services or non-common carrier services. Section 21.920 in the MDS rules specifically adopts the cable rules for EEO in Subsection E of Part 76, which requires that an MVPD is an entity subject to the EEO rules there. As with MDS, the LMDS non-common carrier will be authorized to provide video programming and must be subject to the same EEO requirements as the common carrier licensee. Accordingly, we modify Section 101.311 to impose the requirements on all LMDS licensees.

j. License Terms

259. Section 101.67 provides that all licensees under Part 101 will have a license term not to exceed 10 years. In the *First NPRM*, we proposed a license term of five years, but requested comment on whether a term of 10 years would be more appropriate. Commenters generally favored a grant of 10 years to ensure that the services are implemented successfully. We adopt a

³⁸⁷ See 47 CFR §§ 1.1151-1.1166.

³⁸⁸ Assessment and Collection of Regulatory Fees for Fiscal Year 1996, MD Docket No. 96-84, Report and Order, FCC 96-295, released July 5, 1996 (*1996 Regulatory Fees Report and Order*).

³⁸⁹ *Id.* at paras. 36-38; Appendix F, para. 31.

10-year term for LMDS licensees. This is consistent with the rules governing other Part 101 services. It also serves our goal of providing licensees with flexibility to develop this spectrum as the market demands and to employ innovative technologies which may not be available immediately upon licensing.

k. Renewal Expectancy

260. In the *First NPRM* we proposed to establish renewal expectancy rules for LMDS licenses and requested comment regarding the operation and administration of such rules in the context of license renewal comparative hearing proceedings.³⁹⁰ Based upon our review of the record and further examination of this issue, we have decided to establish a major preference (generally referred to as a "renewal expectancy") as a comparative factor for consideration by the Commission in LMDS license renewal proceedings. It is our view that this renewal expectancy, coupled with the 10-year license term, will contribute toward the establishment of a stable regulatory environment that will serve to attract investment capital that, in turn, will fuel the development and deployment of services utilizing the LMDS spectrum bands.

261. Our renewal expectancy for LMDS is based on renewal expectancy rules we have adopted for cellular service.³⁹¹ Under the rules we adopt today, an LMDS license renewal applicant involved in a comparative renewal proceeding is entitled to a renewal expectancy if the record of the renewal applicant for the relevant license period provides sufficient evidence that the applicant has furnished substantial service during its license term, and that the applicant has substantially complied with the Communications Act, and with applicable Commission rules and policies. We define "substantial service," for purposes of our proposed renewal expectancy rule, as service that is sound, favorable, and substantially above a level of mediocre service that just might minimally warrant renewal.

262. We also require that, in order to qualify for a renewal expectancy, an LMDS license renewal applicant must submit a showing that explains the basis upon which the applicant should receive the expectancy. We require that this showing shall, at a minimum, include the following:

- A description of the current service provided by the applicant, in terms of geographic coverage and population served.

³⁹⁰ *First NPRM*, 8 FCC Rcd at 564 (para. 40).

³⁹¹ See Section 22.940 of the Commission's Rules, 47 CFR § 22.940.

- An explanation of the applicant's record of expansion, including a timetable of the construction of new facilities to meet changes in demand for services provided by the applicant.
- A description of investments made by the applicant in its system.
- A copy of any Order adopted by the Commission finding that the renewal applicant has violated the Communications Act or any Commission rule or policy, and a list of any pending proceedings in which allegations have been made that the applicant has violated the Communications Act or any Commission rule or policy.

I. Construction Requirements

(1) Background; Comments

263. In the *Third NPRM*, we noted that the record indicates that the only potential delays in the deployment of LMDS would be manufacturing sufficient equipment. In order to foster the maximum diversity in services and technology, we tentatively concluded that build-out requirements should not be strict. On the other hand, we expressed concern that rural areas would not receive service without a build-out requirement. Accordingly, we proposed that LMDS licensees be required to have made service available to a minimum of one-third of the population of their geographic areas within five years from the date of license grant, and to two-thirds of the population of their geographic areas within ten years from the date of license grant.³⁹²

264. The parties are divided on this issue. Bell Atlantic and CellularVision support the Commission's proposal.³⁹³ ComTech also agrees with the build-out requirements proposed in the *Third NPRM*, with a variation. ComTech encourages the Commission to require a faster build-out requirement for companies that acquire a license covering or immediately adjacent to their existing service areas, because it believes that these requirements will ensure against anticompetitive behavior.³⁹⁴

³⁹² *Third NPRM*, 11 FCC Rcd at 95-96 (paras. 113-117).

³⁹³ Bell Atlantic Comments to *Third NPRM* at 8-9; CellularVision Comments to *Third NPRM* at 22-23.

³⁹⁴ ComTech Comments to *Third NPRM* at 8.

265. HP, TI, and M3ITC, potential LMDS manufacturers, oppose any build-out requirement if auctions are used as a licensing mechanism.³⁹⁵ HP argues against a build-out requirement based on concerns that all licensees might not be able or willing to satisfy them. It argues that: (1) not all geographical areas within a BTA will be suitable for LMDS due to propagation characteristics; (2) some potential license holders might already have an existing broadband infrastructure in some portions of their license area, which they would possibly not choose to overlay with redundant wireless architecture; and (3) even in areas where LMDS is the technology of choice, some households will be "shadowed."³⁹⁶ TI, too, opposes adoption of a build-out schedule, arguing that LMDS equipment may not be immediately available in sufficient quantities to permit licensees to comply with such a requirement.³⁹⁷ Instead, M3ITC recommends a time limit in which an operator is permitted to claim its service area, *e.g.*, eight years. Thereafter, M3ITC suggests, the Commission should open unserved areas for licensing in the same manner as has been done with respect to cellular unserved areas.³⁹⁸

(2) Decision

266. We have concluded that we will adopt very flexible build-out requirements for LMDS. Specifically, we will require licensees to provide "substantial service" to their service area within 10 years. Although LMDS licensees will have incentives to construct facilities to meet the service demands in their licensed service area, we believe that minimum construction requirements can promote efficient use of the spectrum, encourage the provision of service to rural, remote, and insular areas, and prevent the warehousing of spectrum.

267. The build-out requirement that we adopt today is based upon the requirement we recently adopted for Wireless Communications Services, which is the most liberal construction requirement the Commission has adopted.³⁹⁹ We believe that this liberal build-out requirement is appropriate in the case of LMDS for a number of reasons. First, we are providing LMDS

³⁹⁵ HP Comments to *Third NPRM* at 6-7; TI Comments to *Third NPRM* at 19-20; M3ITC Comments to *Third NPRM* at 3.

³⁹⁶ HP Comments to *Third NPRM* at 6-7. "Shadowed" households are those which are situated within an area generally receiving adequate signal strength from a hub transmitter, but to which the transmitter signal is blocked due to terrain or other obstacles. In the absence of a specially designed solution (*e.g.*, repeaters) these households would not be able to receive LMDS services.

³⁹⁷ TI Comments to *Third NPRM* at 19.

³⁹⁸ M3ITC Comments to *Third NPRM* at 3-4.

³⁹⁹ See Amendment of the Commission's Rules to Establish Part 27, the Wireless Communications Service ("WCS"), GN Docket No. 96-228, Report and Order, FCC 97-50, released Feb. 19, 1997 (*WCS Report and Order*).

licensees with the flexibility to offer a range of services using the LMDS spectrum. Given the broad range of new and innovative services that the comments lead us to believe might be provided over LMDS spectrum, imposing strict construction requirements that would apply over the license term would be neither practical nor desirable as a means of meeting the objectives established in Section 309(j) of the Act regarding warehousing and rapid deployment. Without knowing the specific type of service or services to be provided, it would be difficult to devise specific construction benchmarks.

268. Further, given the undeveloped nature of equipment for use in this band, we are concerned that strict construction requirements might have the effect of discouraging participation in the provision of services over the LMDS spectrum. It may be that a potential licensee could efficiently conduct certain operations on LMDS spectrum, but must await further technological developments to do so affordably. Adopting strict construction requirements here could effectively preclude efficient uses of the spectrum.

269. At the 10-year period, we will require all LMDS licensees to submit an acceptable showing to the Commission demonstrating that they are providing substantial service. Licensees failing to demonstrate that they are providing substantial service will be subject to forfeiture of their licenses. We note that in the past we have defined substantial service as "service which is sound, favorable, and substantially above a level of mediocre service which just might minimally warrant renewal."⁴⁰⁰ For LMDS, however, we believe that further elaboration on this standard in the form of examples of what might constitute substantial service is useful.

270. Thus, for an LMDS licensee that chooses to offer point-to-multipoint services, a demonstration of coverage to 20 percent of the population of its licensed service area at the 10-year mark would constitute substantial service. In the alternative, an LMDS licensee that chooses to offer fixed, point-to-point services, the construction of four permanent links per one million people in its licensed service area at the 10-year renewal mark would constitute substantial service. In addition, the Commission may consider such factors as whether the licensee is offering a specialized or technologically sophisticated service that does not require a high level of coverage to be of benefit to customers,⁴⁰¹ and whether the licensee's operations serve niche markets or

⁴⁰⁰ See, e.g., 47 CFR § 22.940(a)(1)(i).

⁴⁰¹ We have taken this approach in the past with respect to other services. See Amendment of Parts 2 and 90 of the Commission's Rules to Provide for the Use of 200 Channels Outside the Designated Filing Areas in the 896-901 MHz and the 935-940 MHz Bands Allotted to the Specialized Mobile Radio Pool -- Implementation of Section 309(j) of the Communications Act -- Competitive Bidding and Implementation of Sections 3(n) and 322 of the Communications Act, GN Docket No. 93-252, Second Report and Order and Second Further Notice of Proposed Rule Making, FCC 95-159, 10 FCC Rcd 6884 (1995) (*Competitive Bidding Second Report and Order*) at para. 4.

focus on serving populations outside of areas served by other licensees.⁴⁰² These safe-harbor examples are intended to provide LMDS licensees a degree of certainty as to how to comply with the substantial service requirement by the end of the initial license term. This requirement can be met in other ways, and we will review licensees' showing on a case-by-case basis.

271. We believe that these build-out provisions fulfill our obligations under Section 309(j)(4)(B). We also believe that the auction and service rules which we are adopting for LMDS, together with our overall competition and universal service policies, constitute effective safeguards and performance requirements for LMDS licensing. Because a license will be assigned in the first instance through competitive bidding, it will be assigned efficiently to a firm that has shown by its willingness to pay market value its willingness to put the license to its best use. We also believe that service to rural areas will be promoted by our proposal to allow partitioning and disaggregation of LMDS spectrum.⁴⁰³

272. Finally, we note that we reserve the right to review our liberal construction requirements in the future if we receive complaints related to Section 309(j)(4)(B), or if our own monitoring initiatives or investigations indicate that a reassessment is warranted. We also reserve the right to impose additional, more stringent construction requirements on LMDS licenses in the future in the event of actual anticompetitive or rural service problems and if more stringent construction requirements can effectively ameliorate those problems.

C. Technical Rules and Requirements

1. Frequency Coordination

a. Background; Comments

273. In the *Third NPRM*, we recognized that, although a licensee under our proposed framework would be able to conduct operations anywhere within its geographic area, a licensee may need to coordinate its operation with other entities licensed to provide service in geographically adjacent service areas to avoid interference situations. We proposed to require applicants to coordinate frequencies among themselves at their service area boundaries under our

⁴⁰² See Amendment of Parts 2 and 90 of the Commission's Rules to Provide for the Use of 200 Channels Outside the Designated Filing Areas in the 896-901 MHz and the 935-940 MHz Bands Allotted to the Specialized Mobile Radio Pool -- Implementation of Sections 3(n) and 322 of the Communications Act, GN Docket No. 93-252, Third Order on Reconsideration, 11 FCC Rcd 1170 (para. 2) (1995).

⁴⁰³ In addition, the broad universal service policies of the Telecommunications Act of 1996 will contribute substantially to addressing this objective.

existing coordination rules.⁴⁰⁴ This process, the NPRM suggested, would be highly efficient, and would provide LMDS operators sufficient engineering flexibility to avoid interference problems. Alternatively, we proposed to establish a power flux density (PFD) level at the service area boundaries. Included in the PFD rule would be a provision allowing parties to exceed the limit if they could agree on a higher level. The *Third NPRM* suggested that this approach would possibly require less Commission involvement and would hasten the introduction of LMDS services. Therefore, we asked commenters to recommend a PFD limit they believed to be reasonable.⁴⁰⁵

274. In general, LMDS proponents favor employing a frequency coordination procedure, rather than limiting the PFD at the service area boundaries.⁴⁰⁶ For the most part, they acknowledge that the PFD approach would be much simpler; but, as they explain, LMDS development is still in its infancy and therefore, it would be extremely difficult to determine a PFD standard that would be protective of all LMDS system designs.⁴⁰⁷ Besides, they note, competitive forces are more likely to cause system operators to maximize performance standards. These competitive forces, commenters argue, are likely to be more effective than any action by the Commission.⁴⁰⁸

275. To ensure successful frequency coordination and adequate interference control, TI proposes that the coordination notification contain values for the following parameters: (1) EIRP; (2) channelization and frequency plan; (3) modulation type and channel bandwidth; (4) frequency stability; (5) receiver parameters (noise figure, bandwidth, and thresholds); (6) antenna characteristics; and (7) system geometry.⁴⁰⁹ In addition, TI recommends that coordination between adjacent LMDS systems only encompass hubs located within 20 kilometers of BTA boundaries and that coordination be limited to BTAs with different licensees. TI further suggests that existing coordination procedures contained in Section 21.100(d) of the Commission's Rules serve as a guide, and that we adopt a rule requiring LMDS systems to use power control techniques to further simplify resolution of interference problems.⁴¹⁰

⁴⁰⁴ *Third NPRM*, 11 FCC Rcd at 97 (para. 120), citing 47 CFR § 21.100(d), adopted in 47 CFR 101.103(d).

⁴⁰⁵ *Id.*

⁴⁰⁶ See, e.g., CellularVision Comments to *Third NPRM* at 23-24; Endgate Comments to *Third NPRM* at 5; HP Comments to *Third NPRM* at 8.

⁴⁰⁷ See, e.g., CellularVision Comments to *Third NPRM* at 23-24; ComTech Comments to *Third NPRM* at 10.

⁴⁰⁸ See, e.g., CellularVision Comments to *Third NPRM* at 23-24; ComTech Comments to *Third NPRM* at 9.

⁴⁰⁹ TI Comments to *Third NPRM* at 20.

⁴¹⁰ *Id.* at 21, 23.

276. NYNEX recommends that the Commission establish an independent technical advisory committee to establish technical rules. CellularVision opposes any rule requiring LMDS operators to use active power control and interlock techniques in their systems. It contends that these approaches are not necessary, and that they will only complicate LMDS designs and serve to drive up equipment costs to consumers.⁴¹¹

b. Decision

277. There is no support in the record for establishing a service area boundary PFD limit for coordinating adjacent LMDS systems. Commenters believe that LMDS has not matured to the point necessary to enable the calculation of a reasonable limit that would be beneficial in its application. Moreover, adoption of a limit now could stifle more advanced development of LMDS technology. Considering these potential drawbacks, we decline to set such a standard. We reject NYNEX's proposal that we establish a technical advisory committee to develop the technical record established in this proceeding further. As NYNEX notes, referring this matter to another committee would only delay to our process, and in our view would not be likely to yield any additional benefits.

278. Instead of adopting a service area boundary PFD limit, we have decided to adopt the frequency coordination procedures outlined in Section 101.103(d), as proposed in the *Third NPRM*. This coordination process provides licensees the greatest amount of flexibility in system design while ensuring that system interference will be kept to a minimum. These benefits for microwave services are well documented.⁴¹² Our experience with other services employing prior frequency coordination procedures shows that those services are successfully implemented with little delay and rarely result in unresolved frequency interference cases. Given the support in the record and the past success of the process in other services, we believe LMDS will benefit from a similar program. The regulatory scheme being adopted provides each LMDS licensee complete control over its own facilities within its designated service area. Therefore, each licensee will have the flexibility to establish most service performance and interference levels within its system without affecting the operations of adjacent systems owned by other licensees.

279. We adopt new Section 101.103(g) to provide that, under these procedures, LMDS providers licensed to operate in the 27.5-28.35 GHz and 31.0-31.3 GHz bands will follow the requirements of Section 101.103(d) and provide each adjacent LMDS licensee and each

⁴¹¹ CellularVision Reply Comments to *Third NPRM* at 34.

⁴¹² We adopted the frequency coordination procedures in Section 101.103 based on the overwhelmingly support for the application of coordination procedures and standards for all fixed microwave services. *Part 101 Report and Order*, 11 FCC Rcd at 13455 (paras. 63-64).

potentially-affected, adjacent-channel FSS licensee, as necessary, values for the appropriate parameters listed in that subsection. In addition, LMDS providers authorized to operate in the 31.000-31.075 and 31.225-31.300 GHz bands will also be required to coordinate with each non-LTTS cochannel incumbent licensee operating in these bands, consistent with the requirements of Section 101.103(d). Coordinating parties must supply information related to their channelization and frequency plan, receiver parameters (*e.g.*, noise figure, bandwidth, and thresholds) and system geometry. We agree with TI that, based on various assessments conducted in this proceeding,⁴¹³ coordination between adjacent LMDS systems need only encompass hubs and subscriber transceivers located within 20 kilometers of BTA boundaries. Each LMDS licensee must complete this coordination process prior to initiating service within its service area.

280. Currently, Section 101.103(b) does not require existing 31 GHz licensees to conduct frequency coordination, but rather identifies operations in the band as unprotected and subject to harmful interference. However, given our decision to designate the 31 GHz band for LMDS and to afford non-LTTS incumbent licensees in the 31.000-31.075 and 31.225-31.300 GHz bands protection status from LMDS equal to that of LMDS without changing their unprotected status among themselves, we must ensure that the non-LTTS incumbent licensees and the LMDS licensees operating in these bands are protected against each other. To achieve this goal, we revise Section 101.103(b) to reflect the protections we have adopted in this Report and Order for operations in the 31 GHz band. Also, new Section 101.103(g) requires that the non-LTTS incumbent licensees in the 31.000-31.075 and 31.225-31.300 GHz bands complete frequency coordination prior to any system modification if any transmitting station is within 20 km of an LMDS facility. In other words, these parties will be subject to the requirements of Section 101.103(d). Participating parties should resolve any problems that develop during this process. Only unresolved frequency conflicts should be reported to the Commission. In such cases we will resolve the conflicts.

281. At this time we do not see a need to require LMDS licensees to employ active power control and interlock circuitry in their systems. Although these devices may ensure that systems maintain a more constant power level and result in subscriber antennas being more accurately aligned, these are system elements that contribute to service performance and should be left to the discretion of the service providers. We do not wish to impose unnecessary costs on system operators or to indirectly impose service quality standards. As an additional matter, we adopted sharing rules in Section 101.147(x) in the *First Report and Order* between LMDS hub-to-subscriber transmissions and NGSO/MSS feeder links in the 29.100-29.250 GHz band, which impose certain coordination and protection requirements on LMDS licensees operating in that

⁴¹³ See, *e.g.*, TI Comments to *Third NPRM* at 9-10.

band.⁴¹⁴ We take the opportunity at this time to delete the rule from Section 101.147 and place it into Section 101.103 at subpart (h) without change so that all the coordination obligations of LMDS licensees are under Section 101.103.

2. Polarization

a. Background; Comments

282. To ease the frequency coordination process further, we proposed in the *Third NPRM* to restrict the type of polarization employable by LMDS systems to orthogonally-polarized signals. Based on available antenna technology, we concluded that adjacent LMDS systems could realize cross-polarization isolation levels of at least 20 dB,⁴¹⁵ and that allowing other types of polarization would potentially impose some geographical separation between systems, and thereby reduce service to the public.⁴¹⁶

283. Commenters differ on this issue. Supporters of our proposal maintain that using orthogonally-polarized signals would advance the frequency coordination process, and would facilitate co-frequency sharing.⁴¹⁷ ComTech also argues that such signals will help avoid interference to satellite systems.⁴¹⁸ Parties in opposition argue that because the Commission proposed to require frequency coordination between LMDS licensees, a restriction on the use of various signal polarizations is unnecessary.⁴¹⁹ Those commenters note further that, although the limit may be appropriate now, future system developments may require different polarization schemes. NASA adds that because of orientation relationships of LMDS and FSS antennas, there is not likely to be any significant signal polarization isolation between these systems.⁴²⁰

b. Decision

⁴¹⁴ *First Report and Order*, at paras. 69-71.

⁴¹⁵ See "Frequency Reuse in the Cellular LMDS," Suite 12 Group, filed Jan. 6, 1994, cited in *Third NPRM*, 11 FCC Rcd at 97 (para. 121, n.111).

⁴¹⁶ *Third NPRM*, 11 FCC Rcd at 97 (para. 121).

⁴¹⁷ See, e.g., BellSouth Comments to *Third NPRM* at 13; CellularVision Comments to *Third NPRM* at 25-26; ComTech Comments to *Third NPRM* at 10; TI Comments to *Third NPRM* at 22.

⁴¹⁸ ComTech Comments to *Third NPRM* at 10.

⁴¹⁹ See, e.g., Endgate Comments to *Third NPRM* at 6; HP Comments to *Third NPRM* at 8.

⁴²⁰ NASA Comments to *Third NPRM* at 19-20.

284. Based on our review of the record and our further analysis of this issue, we conclude that greater system efficiency would be achieved if we adopt a uniform polarization scheme at least for service area boundaries. Allowing the use of any type of polarization scheme could produce undue hardship on some LMDS licensees, because they might be required to make system alterations to adapt to an adjacent licensee using a non-orthogonal scheme. Because the polarization pattern employed in one service area could have a ripple effect throughout a region, the benefit of providing system owners complete autonomy in this area is outweighed by the potential cost in system modifications and delay in service implementation. We wish to point out that the restriction will apply only to the polarization scheme used at the service area boundary. Twenty kilometers beyond that boundary, licensees may employ any polarization format they conclude best meets their service and system requirements.

3. Equivalent Isotropically Radiated Power

a. Background; Comments

285. With the intent of creating a homogeneous LMDS environment, we proposed to restrict the maximum equivalent isotropically radiated power ("EIRP") at which LMDS systems operate in the 27.5-28.35 GHz band to a -52 dBW/Hz. As to the band 29.1-29.25 GHz, we proposed that LMDS systems not operate at power levels more than those set forth in the sharing agreement between Motorola and various LMDS proponents. As an additional mitigating interference factor, the *Third NPRM* proposed to adopt a 0.001 percent frequency tolerance for all LMDS equipment.⁴²¹

286. Comments regarding the proposed EIRP limit range from concurrence to disapproval. For example, TI says that the recommended power level is sufficient if the measuring standard is 1 megahertz as opposed to 1 hertz. TI proposes this modification because it wants to employ a pilot reference carrier in its system design. The power of that signal exceeds the -52 dBW/Hz proposed limit when measured on a per-hertz basis.⁴²² BellSouth supports the limits for LMDS hubs, but requests that no limit be placed on subscriber transceiver equipment (or return links). BellSouth argues that these units should be able to employ the maximum power permissible in the band, *i.e.*, -18 dBW/Hz, so that future equipment, designed for improved service quality, can be

⁴²¹ *Third NPRM*, 11 FCC Rcd at 97-98 (para. 122).

⁴²² TI Comments to *Third NPRM* at 10.

accommodated.⁴²³ While sharing views similar to BellSouth's, HP suggests that subscriber transceiver equipment EIRP be limited to -30 dBW/Hz.⁴²⁴

287. On the other hand, Endgate opposes any limit less than -18 dBW/Hz for operation in the 27.5-28.35 GHz band. According to Endgate, field tests have shown that the proposed -52 dBW/Hz limit will support line-of-sight coverage in normal foliated environments, but will not provide sufficient coverage to justify an LMDS system economically. Endgate contends that the LMDS system power level determines the quality of service provided.⁴²⁵ Although the suggested power level benefits LMDS systems, NASA claims that this level makes LMDS systems more susceptible to interference from FSS operations.⁴²⁶ As a compromise, CellularVision offers a maximum limit of -35 dBW/Hz based on a bandwidth of 1 megahertz. It believes this level is sufficient to meet the needs of LMDS subscribers and is conducive to frequency coordination.⁴²⁷

288. Although they support the Commission's efforts to maximize use of the 28 GHz band, CellularVision and ComTech do not support adoption of a frequency tolerance standard for LMDS subscriber transceiver equipment. They contend that although the proposed standard is within the state-of-the-art, it cannot be achieved at the necessary low cost for LMDS subscriber transceiver equipment.⁴²⁸ Additionally, according to CellularVision and ComTech, LMDS subscriber transceiver equipment will operate at power levels much lower than hub stations, and, traditionally, the Commission has permitted lower-powered stations to operate at a lower frequency tolerance.⁴²⁹ Therefore, they propose that subscriber transceiver equipment operating below 500 mW be exempt from any frequency stability requirement, or, in the alternative, that the current Part 21 standard of 0.03 percent for such facilities be adopted.⁴³⁰

b. Decision

⁴²³ BellSouth Comments to *Third NPRM* at 13.

⁴²⁴ HP Comments to *Third NPRM* at 2.

⁴²⁵ Endgate Comments to *Third NPRM* at 6-9.

⁴²⁶ NASA Comments to *Third NPRM* at 20.

⁴²⁷ CellularVision Reply Comments to *Third NPRM* at 33-34.

⁴²⁸ *Id.* at 36.

⁴²⁹ CellularVision Comments to *Third NPRM* at 28-29; ComTech Comments to *Third NPRM* at 11.

⁴³⁰ CellularVision Comments to *Third NPRM* at 29; ComTech Comments to *Third NPRM* at 11.

289. The proposed EIRP limit was based on typical power levels LMDS system proponents provided for the general system characteristics contained in the Report of the LMDS/FSS 28 GHz Band Negotiated Rulemaking Committee.⁴³¹ In addition, we believed that establishing such a maximum power level would create a more homogeneous LMDS operating environment because future system power levels would be closely aligned with the systems of record. Additionally, we saw this as aiding the ability to coordinate adjacent system operations. Proponents of a higher power limitation, however, want more flexibility to design future systems that can take advantage of more modern modulation techniques and greater discretion to use the EIRP system parameter to mitigate interference problems.

290. To meet our objectives and provide system designers with the necessary flexibility to further advance LMDS systems, we are adopting a maximum EIRP for LMDS hubs operating in the 27.5-28.35 GHz and 31 GHz bands of 30 dBW/MHz.⁴³² This higher EIRP, besides facilitating the above objectives, will also improve the reliability of longer paths and further improve service quality. In some cases, this may result in a requirement for fewer hub sites and a reduction in the cost of providing LMDS services. Moreover, this power increase should accommodate TI's proposed system single frequency operation as well. Because the transmission paths from the subscriber terminal equipment to a hub may be viewed as a point-to-point configuration, we will accord LMDS operators the discretion to use as much as 42 dBW/MHz (which is equivalent to the -18 dBW/hz noted in the *Third NPRM*) for such transmissions. We revise the table of transmitter power limitations in Section 101.113 to reflect the limits we adopt for LMDS and to permit incumbents in 31 GHz to continue at their currently authorized level.⁴³³ Operations to take place in the 29.100-29.250 GHz band are governed by rules we adopted in the *First Report and Order* in Sections 101.113(c), as well as 101.133(d) and 101.147(t), which are new provisions designed to facilitate the sharing of this spectrum by LMDS, FSS/Geostationary Orbit (GSO) gateways, and MSS feeder link licensees.⁴³⁴

291. Although CellularVision and ComTech oppose adopting a frequency stability standard, they do not provide any data supporting their allegation that the costs they would incur to comply with our proposal would be too high. Other commenters believe as we do, that the proposed standard is reasonable, is within the state-of-the-art, and is economically feasible.

⁴³¹ See Report of the LMDS/FSS GHz Band Negotiated Rulemaking Committee, Appendix 7, at 6-7.

⁴³² Note that the EIRP specification is now in terms of dBW/MHz and this new level represents an increase of 20 dBW above our proposal. Since we last addressed this issue, the scope of this proceeding has expanded to consider designating spectrum at the 31 GHz band for LMDS, and we in fact are taking action in this Second Report and Order to make available 300 megahertz of spectrum in the 31 GHz band for LMDS.

⁴³³ 47 C.F.R. § 101.113.

⁴³⁴ *First Report and Order*, at Appendix B, adopting 47 CFR §§ 101.113(c), 101.133(d), 101.147(x).

Limiting the range within which the frequency can drift, in our view, will aid in coordinating frequency usage at service area boundaries. This means services can be introduced more rapidly and service quality can be significantly improved. Therefore, we adopt our 0.001 percent proposal for all LMDS transmitting equipment and amend the table of frequency tolerance percentages in Section 101.107 accordingly, while permitting incumbent licensees in the 31 GHz band to continue at their existing level.⁴³⁵

4. RF Emissions

292. Although we have set power limitations for LMDS hubs and subscriber transceivers, these limits do not reflect consideration of potential radio frequency (RF) radiation hazard to equipment installers, passersby or subscribers. Generally, the hub antenna will transmit its main beam at some angle below the horizon, to communicate with subscriber transceivers. Its radiation pattern and EIRP levels will be similar to those of an MDS transmit station, a service the Commission has considered as part of its requirements for evaluating RF radiation exposure of the public or workers in the *RF Guidelines Report and Order*⁴³⁶. Similarly, we expect that the LMDS hub transmitting antennas would be mounted in a fashion that should preclude public access. For the purpose of complying with our RF radiation exposure guidelines and because of the technical similarities between LMDS and MDS, we are requiring LMDS licensees to follow the RF radiation guidelines and procedures that apply to MDS systems.

293. We note that if an MDS transmitting antenna is not rooftop mounted and its height above ground is less than 10 meters and the station's total power is greater than 1,640 Watts EIRP, a routine environmental evaluation will have to be performed.⁴³⁷ If the facility is mounted on a rooftop and the power is greater than 1,640 W EIRP, a routine evaluation will have to be performed. We will apply the same criteria to LMDS. We note, however, that facilities, operations, and transmitters otherwise categorically excluded from the requirement to undertake such studies or to prepare a formal environmental assessment, are still expected to comply with our guidelines and may be subject to further environmental evaluation in special cases.⁴³⁸

⁴³⁵ 47 C.F.R. § 101.107.

⁴³⁶ Guidelines for Evaluating the Environmental Effects of Radiofrequency Radiation, ET Docket No. 93-62, Report and Order, 11 FCC Rcd 15123 (1996) (*RF Guidelines Report and Order*).

⁴³⁷ See 47 CFR § 1.1307(b)(1). If, as a result of the routine environmental evaluation, the facility is found to exceed the Commission's exposure limits, an Environmental Assessment must be prepared.

⁴³⁸ See 47 CFR §§ 1.1307(c), 1.1307(d).

294. Subscriber transceiver antennas present a unique situation. There is no existing service designed to operate in a similar fashion with similar technical parameters. Nonetheless, we emphasize that all FCC-regulated transmitters, including the subscriber terminals used in LMDS systems, are required to meet the applicable Commission guidelines regarding RF exposure limits.⁴³⁹ The subscriber antennas to be used are very small and can be mounted in a variety of places at a subscriber location. Generally, we expect these antennas to be mounted so that neither subscribers nor passersby venture into their transmit beams, because a person will block the signal and interrupt the transmissions between the hub and subscriber transceivers. Moreover, it is anticipated that LMDS subscriber equipment will be installed by professional personnel, thereby minimizing the possibility that subscribers or passersby will intercept the transceiver signal.

295. We believe it is incumbent upon LMDS licensees to exercise reasonable care to protect users and the public from the operation of LMDS transceivers. Since the Commission has not specifically addressed RF emissions guidelines for this kind of equipment, we believe that requiring licensees to provide user and installation information, and to label subscriber antennas properly, provides adequate notice regarding the potential safety hazards of LMDS subscriber transceivers. We will therefore require LMDS licensees to attach labels to every antenna, in a conspicuous fashion. Such labels should include reference to the Commission guidelines that apply. In addition, we expect LMDS licensees to include a full explanation of the labels that appear on their antennas, as well as reference to the applicable Commission guidelines in the instruction manuals and other information accompanying their subscriber transceivers. For example, this information should include advice as to minimum separation distances required between users and radiating antennas to meet the Commission's exposure guidelines. While we will require LMDS licensees to attach labels and provide users with notice of radiation hazards, we will not mandate the specific language to be used. However, we will require use of the ANSI-specified warning symbol for RF exposure.⁴⁴⁰

296. Although we have declined to require interlock features,⁴⁴¹ we recognize that such features could enhance the safety of LMDS subscriber transceivers. For example, such a feature could reduce or terminate transmitting power if someone were to block the antenna's close-in main beam. Thus, we strongly encourage the use of safety interlock features on the subscriber units to the extent that such features can be made available at a reasonable cost. We expect

⁴³⁹ *RF Guidelines Report and Order*, 11 FCC Rcd at 15124, 15152 (paras. 1, 75). See also Section 1.1307(b)(1) of the Commission's Rules, 47 CFR § 1.1307(b)(1).

⁴⁴⁰ "American National Standard Radio Frequency Radiation Hazard Warning Symbol," ANSI C95.2-1982, Copyright 1982 by the Institute of Electrical and Electronics Engineers, Inc.

⁴⁴¹ See para. 281, *supra*.

LMDS licensees to act in good faith, and to work with all interested parties, to achieve the protection intended. If, in the future, we find that the requirements and procedures we adopt today do not provide adequate protection from RF emissions to subscribers and the general public, we may revisit the issue of ensuring adequate safeguards.

5. Spectral Efficiency

a. Background; Comments

297. In the *Third NPRM* we sought comment on whether a spectral efficiency standard is necessary and suggested that, if a standard is necessary, the minimum equipment performance be 1 bps/Hz for digital modulated systems. We also asked if there is a better gauge of spectral efficiency that would minimize enforcement concerns for the Commission.⁴⁴²

298. BellSouth and TI concur with our proposal to establish a spectral efficiency of 1 bps/Hz for digital modulated LMDS equipment. They do not believe this standard would be an administrative burden, and they argue that it would be an adequate gauge of equipment efficiency.⁴⁴³ NASA argues that the proposal is outdated because more advanced modulation techniques have made efficiency levels of 7 bps/Hz achievable. Nevertheless, taking a more practical view, it suggests that the standard be set at 4 bps/Hz, since this efficiency is consistent with 32-level or higher QAM schemes and should pose no problem to equipment manufacturers.⁴⁴⁴

299. Several commenters, such as CellularVision, ComTech, and GEC, argue that a spectral efficiency standard is unnecessary because of our intent to auction LMDS spectrum. They contend that when licensees acquire spectrum via auctions, they have an economic incentive to make the optimal tradeoff between equipment cost and spectral efficiency. In addition, these commenters contend, multiple access schemes and frequency reuse efficiency of LMDS are much more significant factors in considering overall spectral efficiency than modulation efficiency.⁴⁴⁵ Additionally, ComTech argues that use of efficiency standards adopted in the Private Land Mobile Radio Services ("PLMRS") rearming proceeding is inappropriate because those standards are not developed for LMDS system architecture. ComTech states that, unlike PLMRS, which

⁴⁴² *Third NPRM*, 11 FCC Rcd at 98-99 (para. 124).

⁴⁴³ BellSouth Comments to *Third NPRM* at 13; TI Comments to *Third NPRM* at 24.

⁴⁴⁴ NASA Comments to *Third NPRM* at 22.

⁴⁴⁵ CellularVision Comments to *Third NPRM* at 30-31; ComTech Comments to *Third NPRM* at 11; GEC Comments to *Third NPRM* at 6.

generally employs frequencies only once in a metropolitan area, LMDS supports many separate reuses of spectrum within a given area. With modulation efficiency equalling PLMRS, ComTech concludes that LMDS would have a "spectral efficiency" measured over a given area that is 50 or more times that of PLMRS. Thus, ComTech argues, no standard is needed, and if any is promulgated, it should be one that characterizes the true efficiency employed by LMDS.⁴⁴⁶

300. GEC maintains that power amplifier devices are not available that can deliver the linearity required for NASA's suggested modulation and spectral efficiency of 4 bps/Hz. Therefore, GEC suggests that the Commission not require a spectral efficiency level beyond that of analog delivery.⁴⁴⁷ CellularVision reiterates its earlier position that if the spectrum is to be auctioned, there is no need for a spectral efficiency standard. Nevertheless, if there must be one, it recommends 1.0 bps/Hz as a minimum.⁴⁴⁸

b. Decision

301. We decline to adopt the 1.0 bps/Hz transmitter spectral efficiency standard. In the *Third NPRM* we recognized that modulation techniques have advanced over this period and will continue to do so. Furthermore, we agree with commenters that auctions are an effective means of guaranteeing that optimum efficiency will be achieved in the use of spectrum by LMDS licensees. Carriers who have invested in their acquisition of LMDS licenses have an incentive to utilize the spectrum in the manner that best ensures a return on their investment, and a component of this utilization is likely to involve the licensees' pursuit of spectral efficiencies. We note, however, that this assessment by licensees will involve balancing between equipment costs and attainable levels of spectral efficiency. We believe that it is sound public policy to provide equipment manufacturers and licensees sufficient flexibility to design and install equipment that best meets the service needs of the customers.

D. Competitive Bidding Rules and Procedures

1. Use of Competitive Bidding

a. Background; Comments

302. Section 309(j) of the Communications Act gives the Commission auction authority over services where mutually exclusive applications for initial licenses or construction permits are

⁴⁴⁶ ComTech Comments to *Third NPRM* at 12.

⁴⁴⁷ GEC Reply Comments to *Third NPRM* at 2-3.

⁴⁴⁸ CellularVision Reply Comments to *Third NPRM* at 34.

accepted for filing.⁴⁴⁹ Additionally, Section 309(j) requires that the principal use of the spectrum to be auctioned will involve or is reasonably likely to involve the provision of subscription-based communications services.⁴⁵⁰ In the *Third NPRM* we stated our belief that LMDS spectrum meets these requirements and tentatively concluded that use of competitive bidding to award LMDS licenses will promote the objectives described in Section 309(j)(3) of the Communications Act.⁴⁵¹

303. Most commenters support auctioning LMDS spectrum.⁴⁵² M3ITC, however, disagrees with the Commission's proposal to auction LMDS licenses, and proposes the use of lotteries.⁴⁵³ In opposing the use of auctions for LMDS spectrum, M3ITC expresses concern that small businesses may lack the financial ability to participate in the auction, particularly in the major markets. It suggests the imposition of a royalty or other fee on lottery winners to generate revenue in lieu of auctions.⁴⁵⁴ PTV advocates a set-aside of 150 megahertz of LMDS spectrum for educational uses. It states that if a 150 megahertz band is reserved for noncommercial use, auctions should not be used to award licenses in this band.⁴⁵⁵ As an alternative to a set-aside, PTV proposes that the Commission require LMDS licensees to provide access to a limited number of channels or a percentage of capacity to non-commercial entities at no charge or at preferential rates.⁴⁵⁶

b. Decision

304. We conclude that auctioning LMDS licenses would further the Communications Act's objectives. First, based on our previous experience in conducting auctions for other

⁴⁴⁹ 47 U.S.C. § 309(j).

⁴⁵⁰ *Id.*

⁴⁵¹ *Third NPRM*, 11 FCC Rcd at 125 (para. 129); 47 U.S.C. § 309(j)(3).

⁴⁵² See, e.g., CellularVision Comments to *Third NPRM* at 32; TI Comments to *Third NPRM* at 24; Joint Parties Comments to *Third NPRM* at 2; LMC Comments to *Third NPRM* at 4.

⁴⁵³ M3ITC Comments to *Third NPRM* at 6.

⁴⁵⁴ *Id.*

⁴⁵⁵ PTV Comments to *Third NPRM* at 4. In the *First NPRM* we solicited comment on the advisability of setting aside a portion of the available 28 GHz band for educational use. See *First NPRM*, 8 FCC Rcd at 560 (para. 19, n.6).

⁴⁵⁶ See PTV Comments to *Third NPRM* at 11, 12. See also PTV Comments to *Fourth NPRM* at 3; PTV Reply Comments to *Fourth NPRM* at 2. Several other commenters favor the use of LMDS spectrum for educational and other non-commercial uses. See NTIA *Ex Parte* Comments to *Fourth NPRM* at 1; RioVision Comments to *First NPRM* at 2, 3; Suite 12 Group Comments to *First NPRM* at 10-16.

services, we believe that use of competitive bidding to award LMDS licenses, as compared with other licensing methods, would speed the development and deployment of this new technology, products and services to the public with minimal administrative or judicial delay, and would encourage efficient use of the spectrum as required by Sections 309(j)(3)(A) and 309(j)(3)(D).⁴⁵⁷ Second, auctions meet the objectives of Section 309(j)(3)(B) because we are adopting competitive bidding rules that foster economic opportunity and the distribution of licenses among a wide variety of applicants, including small businesses.⁴⁵⁸

305. We also have determined that use of auctions to assign LMDS licenses will advance the goals of Section 309(j)(3)(C) by enabling the public to recover a portion of the value of the public spectrum.⁴⁵⁹ If we use a licensing methodology that ensures that licenses are assigned to those who value them most highly, it follows that such licensees can be expected to make the most efficient and intensive use of the spectrum. Because LMDS is eligible for competitive bidding under the statutory requirements set forth in Section 309(j)(2)(A), we are precluded from using lotteries to award LMDS licenses.⁴⁶⁰ Accordingly, we reject M3ITC's suggestion that we use lotteries to award LMDS licenses. Moreover, as discussed *infra*, we believe that M3ITC's concerns regarding small business participation are addressed by the special provisions we adopt today for small businesses participating in LMDS auctions.⁴⁶¹

306. Finally, with respect to PTV's argument for a set-aside of LMDS spectrum for educational purposes, we decline at this time to adopt this specific proposal. While we are not adopting public interest programming obligations at this time, we reserve the right to do so on LMDS providers who provide video services. Licensees are specifically on notice that the Commission may adopt public interest requirements at a later date. If public interest obligations are found to be warranted, one option would be to adopt rules similar to those Congress enacted for DBS providers, including a 4 percent to 7 percent set-aside of capacity for non-commercial educational and informational programming.⁴⁶² Another option would be to hold LMDS licensees to a "promise *versus* performance" type standard.

2. Competitive Bidding Issues

⁴⁵⁷ 47 U.S.C. § 309(j)(3)(A),(D).

⁴⁵⁸ 47 U.S.C. § 309(j)(3)(B).

⁴⁵⁹ 47 U.S.C. § 309(j)(3)(C).

⁴⁶⁰ 47 U.S.C. § 309(i)(1)(B).

⁴⁶¹ See paras. 340-363, *infra*.

⁴⁶² See Section 335 of the Communications Act, 47 U.S.C. § 335.

a. Competitive Bidding Design for LMDS Licenses

(1) Background; Comments

307. In the *Third NPRM*, we tentatively concluded that we would use simultaneous multiple round auctions to award LMDS licenses, and that we would not use combinatorial bidding in LMDS licensing. We also proposed to award all LMDS licenses together in one simultaneous multiple round auction because of the expected value and significant interdependence of the licenses sought.⁴⁶³

308. In its comments, TI supports the use of simultaneous multiple round bidding because of the degree of interdependence among LMDS licenses.⁴⁶⁴ WCA and CellularVision also support the use of simultaneous multiple round bidding.⁴⁶⁵ ComTech believes that the Commission should not employ combinatorial bidding on the basis that it would be difficult for small operators to determine the likelihood of winning any particular market.⁴⁶⁶ No comments were filed regarding our proposal to group all LMDS licenses together in one auction.

(2) Decision

309. Based on the record in this proceeding and our successful experience conducting simultaneous multiple round auctions for other services, we believe a simultaneous multiple round auction is the most appropriate competitive bidding design for LMDS. First, for certain bidders, the value of these licenses will be significantly interdependent because of the desirability of aggregation across geographic regions. Simultaneous multiple round bidding will generate more information about license values during the course of the auction, and provide bidders with more flexibility to pursue back-up strategies, than auctioning licenses separately. Simultaneous multiple round bidding therefore is most likely to award licenses to the bidders who value them the most highly and to provide bidders with the greatest likelihood of obtaining the license combinations that best satisfy their service needs. We currently do not have the operational capability to use combinatorial bidding but will consider doing so in future auctions.

310. We will conduct simultaneous auctions of two licenses in each of 492 BTAs for LMDS, for a total of 984 licenses. Each BTA will have one license consisting of 1,150

⁴⁶³ *Third NPRM*, 11 FCC Rcd at 104-05 (para. 141).

⁴⁶⁴ TI Comments to *Third NPRM* at 24.

⁴⁶⁵ WCA Comments to *Third NPRM* at 6; CellularVision Comments to *Third NPRM* at 32.

⁴⁶⁶ ComTech Comments to *Third NPRM* at 12.

megahertz: 1,000 megahertz in the 28 GHz band (27.5-28.35 GHz and 29.1-29.25 GHz) and 150 megahertz in the 31 GHz band (31.075 GHz-31.225 GHz); and a second license consisting of 150 megahertz in the 31 GHz band (31.0-31.075 GHz and 31.225-31.399 GHz) will be auctioned concurrently. As mentioned above, we will not include the New York BTA at this time in the licensing process because of the outstanding issues connected with the CellularVision pioneer preference request.

b. LMDS Bidding Procedures

311. In the *Third NPRM* we proposed to use simultaneous multiple round competitive bidding procedures similar to those used for broadband PCS.⁴⁶⁷ Accordingly, we will use the competitive bidding procedures of Part 1, Subpart Q, for LMDS with modifications as indicated below.

(1) Bid Increments and Tie Bids

312. In the *Third NPRM*, we stated that in simultaneous multiple round auctions it is important to specify minimum bid increments to speed the progress of the auction and help ensure that the auction closes within a reasonable period of time.⁴⁶⁸ In the *Competitive Bidding Second Report and Order*, we reserved the right to specify minimum bid increments in dollar terms as well as in percentage terms.⁴⁶⁹ This approach ensures a timely completion of the auction even if bidding begins at a very low dollar amount. The *Third NPRM*, therefore, proposed a minimum bid increment equal to some percentage of the high bid from the previous round or a dollar amount per "MHz-pop" or "bidding unit," whichever is greater.⁴⁷⁰ The number of "MHz-pops" is calculated by multiplying the population of the service area by the amount of spectrum authorized by the license. We proposed to announce by Public Notice prior to auction the specific bid increment that generally will be used, and to retain the discretion to set and vary the minimum bid increments for individual licenses or groups of licenses over the course of an

⁴⁶⁷ *Third NPRM*, 11 FCC Rcd at 107 (para. 148). See also Implementation of Section 309(j) of the Communications Act -- Competitive Bidding, PP Docket No. 93-253, Fifth Report and Order, 9 FCC Rcd 5532 (1994) (*Competitive Bidding Fifth Report and Order*), recon. granted in part, Implementation of Section 309(j) of the Communications Act -- Competitive Bidding, PP Docket No. 93-253, Fifth Memorandum Opinion and Order, 10 FCC Rcd 403 (1995) (*Competitive Bidding Fifth Memorandum Opinion and Order*); Implementation of Section 309(j) of the Communications Act -- Competitive Bidding, Sixth Report and Order, PP Docket No. 93-253, 11 FCC Rcd 136 (1995) (*Competitive Bidding Sixth Report and Order*); *Broadband PCS Report and Order*.

⁴⁶⁸ *Third NPRM*, 11 FCC Rcd at 107 (para. 149).

⁴⁶⁹ *Competitive Bidding Second Report and Order*, 9 FCC Rcd at 2369 (para. 126).

⁴⁷⁰ *Third NPRM*, 11 FCC Rcd at 107 (para. 149).

auction. Finally, where a tie bid occurs, we proposed to determine the high bidder by the order in which we received the bids.⁴⁷¹

313. No commenters disagreed with our general proposal to establish minimum bid increments and our proposal for determining the winner between two tie bids. However, ComTech requests that the Commission ensure that bid deposits, bid increments, and other monetary amounts that have been calculated based on MHz-pops in previous auctions should reflect the fact that only one license covering 1 gigahertz is issued per service area. ComTech also requests that we use the number of households in such calculations in lieu of the population of the service area.⁴⁷²

314. We will follow the practice that we have used for other auctions and announce by Public Notice prior to the LMDS auction the general guidelines for bid increments.⁴⁷³ We retain the discretion to set and, by announcement before or during the auction, vary the minimum bid increments for individual licenses or groups of licenses. Where a tie bid occurs, we will determine the high bidder by the order in which the Commission received the bids.⁴⁷⁴ We address ComTech's proposal in our discussion below of upfront payments.⁴⁷⁵ To allow for the flexibility to deal with this proposal, we retain the discretion to vary both absolute and percentage bid increments for specific licenses.

(2) Stopping Rules

315. When simultaneous multiple round auctions are used, a stopping rule must be established for determining when the auction is over. In the *Third NPRM*, we proposed a simultaneous stopping rule in which bidding generally remains open on all licenses until there is no new acceptable bid on any license.⁴⁷⁶ No specific comments were filed in response to this proposal.

⁴⁷¹ *Id.*

⁴⁷² ComTech Comments to *Third NPRM* at 13.

⁴⁷³ Auction rules for 900 MHz SMR and MDS use this flexible approach for setting bid increments. See 47 CFR § 90.803(c) and 47 CFR § 21.951(2)(iv), respectively.

⁴⁷⁴ See *Competitive Bidding Second Report and Order*, 9 FCC Rcd at 2369 (para. 126).

⁴⁷⁵ See paras. 328-330, *infra*.

⁴⁷⁶ *Third NPRM*, 11 FCC Rcd at 108 (para. 153).

316. We will adopt a simultaneous stopping rule for LMDS. The auction will close after one round passes in which no new valid bids, proactive activity rule waivers (as defined at paragraphs 319 through 326, *infra*), or bid withdrawals are submitted. We will retain the discretion, however, to keep the auction open even if no new valid bids, proactive waivers, or bid withdrawals are submitted. In the event that this discretion is exercised, the effect will be the same as if a bidder had submitted a proactive waiver.⁴⁷⁷ This will help ensure that the auction is completed within a reasonable period of time, because it will enable the Commission to utilize larger bid increments, which speed the pace of the auction, without risking premature closing of the auction. Since we also impose an activity rule (as discussed *infra*), we believe that simultaneous closing for all licenses will afford bidders flexibility to pursue back-up strategies without running the risk that bidders will hold back their bidding until the final rounds. In addition, we retain the discretion to declare after forty rounds that the auction will end after some specified number of additional rounds. If this option is used, we will accept bids only on licenses where the high bid has increased in at least one of the last three rounds.

(3) Duration of Bidding Rounds

317. We proposed in the *Third NPRM* to reserve the discretion to vary the duration of the bidding rounds or the interval at which bids are accepted.⁴⁷⁸ No specific comments were filed in response to this proposal. Because in simultaneous multiple round auctions bidders may need a significant amount of time to evaluate back-up strategies and develop their bidding plans, we reserve the discretion to vary the duration and frequency of bidding rounds. We will announce any changes to the duration of rounds and intervals between bidding either by Public Notice prior to the auction or by announcement during the auction.

(4) Bid Withdrawals

318. In the *Third NPRM*, we proposed to permit a high bidder to withdraw one or more of its high bids during the bid withdrawal period in each round subject to the bid withdrawal payments specified below.⁴⁷⁹ The only comment on this proposal was WCA's suggestion that we restructure our bid withdrawal provisions if we decided to award more than one license per geographic service area.⁴⁸⁰ Because we are awarding two licenses of different size (1,150

⁴⁷⁷ See para. 325, *infra*. See also Implementation of Section 309(j) of the Communications Act -- Competitive Bidding, PP Docket No. 93-253, Memorandum Opinion and Order, 9 FCC Rcd 7684-85 (1994).

⁴⁷⁸ *Third NPRM*, 11 FCC Rcd at 109 (para. 155).

⁴⁷⁹ *Id.* at 109 (para. 156). See paras. 333-336, *infra*.

⁴⁸⁰ WCA Comments to *Third NPRM* at 6-7.

megahertz and 150 megahertz) per geographic area, we find it unnecessary to address the merits of WCA's alternative proposal, which was predicated on the assumption that we would award two LMDS licenses of equal size (450 megahertz each). We will not make use of a bid withdrawal period within each round as we have in previous auctions, but will permit a high bidder to withdraw the high bid from a previous round subject to the bid withdrawal payments discussed below.⁴⁸¹ If a high bid is withdrawn (and not bid upon in the same round), the license will be offered in the next round at the second highest bid price. We may at our discretion adjust the offer price in subsequent rounds until a valid bid is received on the license. In addition, to prevent a bidder from strategically delaying the close of the auction, we retain the discretion to limit the number of times that a bidder may re-bid on a license from which it has withdrawn a high bid.

(5) Activity Rules

319. In the *Competitive Bidding Second Report and Order*, we adopted the Milgrom-Wilson activity rule as our preferred activity rule where a simultaneous stopping rule is used.⁴⁸² The Milgrom-Wilson approach encourages bidders to participate in early rounds by limiting their maximum participation to some multiple of their minimum participation level. In the *Third NPRM*, we tentatively concluded that the Milgrom-Wilson activity rule should be used in conjunction with the proposed simultaneous stopping rule for LMDS auctions.⁴⁸³ We believed that the Milgrom-Wilson approach would best achieve the Commission's goals of affording bidders flexibility to pursue back-up strategies, while at the same time ensuring that simultaneous auctions are concluded within a reasonable period of time.⁴⁸⁴

320. In its comments, ComTech urges the Commission to adopt bidder activity rules that assume only one license covering 1 gigahertz of spectrum for each service area and which establish the number of households covered as the activity criterion. That is, bidders would declare their eligibility solely in terms of households.⁴⁸⁵

321. For LMDS auctions, we will use the Milgrom-Wilson activity rule with some variations. Milgrom and Wilson divide the auction into three stages. We will set, by announcement before the auction, the minimum required activity levels for each stage of the

⁴⁸¹ See paras. 333-336, *infra*.

⁴⁸² *Competitive Bidding Second Report and Order*, 9 FCC Rcd at 2372-73 (para. 144).

⁴⁸³ *Third NPRM*, 11 FCC Rcd at 109-12 (paras. 157-165).

⁴⁸⁴ *Id.*

⁴⁸⁵ ComTech Comments to *Third NPRM* at 13.

auction. We retain the discretion to set and, by announcement before or during the auction, vary the required minimum activity levels (and associated eligibility calculations) for each auction stage. Retaining this flexibility will improve our ability to control the pace of the auction and help ensure that the auction is completed within a reasonable period of time.

322. For the LMDS auctions, we will use the following transition guidelines: The auction will begin in Stage One and will generally move from Stage One to Stage Two and from Stage Two to Stage Three when the auction activity level is below ten percent for three consecutive rounds. Under no circumstances can the auction revert to an earlier stage. However, we retain the discretion to determine and announce during the course of an auction when, and whether, to move from one auction stage to the next, based on a variety of measures of bidder activity, including, but not limited to, the auction activity level as defined above, the percentage of licenses (measured in terms of bidding units) on which there are new bids, the number of new bids, and the percentage increase in revenue.

323. To avoid the consequences of clerical errors and to compensate for unusual circumstances that might delay a bidder's bid preparation or submission in a particular round, we will provide bidders with a limited number of waivers of the above-described activity rule. We believe that some waiver procedure is needed because we do not wish to reduce a bidder's eligibility due to an accidental act or circumstances not under the bidder's control.⁴⁸⁶

324. We will provide bidders with five activity rule waivers that may be used in any round during the course of the auction.⁴⁸⁷ If a bidder's activity is below the required activity level, a waiver will be applied automatically. That is, for example, if a bidder fails to submit a bid in a round, and its activity from any standing high bids (that is, high bids at the end of the previous round) falls below its required activity level, a waiver will be automatically applied. A waiver will preserve current eligibility in the next round.⁴⁸⁸ An activity rule waiver applies to an entire round of bidding and not to a particular BTA service area. Initial eligibility is determined by the amount of the upfront payment received and the licenses identified in the applicant's FCC Form 175, which are discussed below.

325. Bidders will be afforded an opportunity to override the automatic waiver mechanism when they place a bid if they intentionally wish to reduce their bidding eligibility and do not want

⁴⁸⁶ See *Competitive Bidding Second Report and Order*, 9 FCC Rcd at 2373 (para. 145).

⁴⁸⁷ *Id.* at 2373 (para. 146).

⁴⁸⁸ However, an activity rule waiver cannot be used to correct an error in the amount bid.

to use a waiver to retain their eligibility at its current level.⁴⁸⁹ If a bidder overrides the automatic waiver mechanism, its eligibility will be permanently reduced, and it will not be permitted to regain its bidding eligibility from a previous round. An automatic waiver invoked in a round in which there are no new valid bids will not keep the auction open. Bidders will have the option of entering a proactive activity rule waiver during any round.⁴⁹⁰ If a bidder submits a proactive waiver in a round in which no other bidding activity occurs, the auction will remain open.

326. We retain the discretion to issue additional waivers during the course of an auction for circumstances beyond a bidder's control. We also retain the flexibility to adjust by Public Notice prior to an auction the number of waivers permitted, or to institute a rule that allows one waiver during a specified number of bidding rounds or during specified stages of the auction.⁴⁹¹

c. Procedural and Payment Issues

327. In the *Competitive Bidding Second Report and Order* as modified by the *Competitive Bidding Second Memorandum Opinion and Order* we established general procedural and payment rules for auctions, but also stated that such rules may be modified on a service-specific basis.⁴⁹² We will generally follow the procedural and payment rules established in Subpart Q of Part 1 of the Commission's Rules. Any service-specific modifications based on the particular characteristics of LMDS will be set forth by Public Notice by the Wireless Telecommunications Bureau.

(1) Upfront Payments

328. The *Third NPRM* proposed to require participants in LMDS auctions to tender to the Commission a substantial upfront payment.⁴⁹³ We stated in the *Competitive Bidding Second Report and Order* that as a general rule we will base upfront payments on a formula of \$0.02 per MHz-pop for the largest combination of MHz-pops a bidder anticipates being active on in any

⁴⁸⁹ See *Competitive Bidding Fourth Memorandum Opinion and Order*, 9 FCC Rcd at 6861 (paras. 8-15).

⁴⁹⁰ Thus, a "proactive" waiver, as distinguished from the automatic waiver described above, is one requested by the bidder.

⁴⁹¹ See *Competitive Bidding Second Report and Order*, 9 FCC Rcd at 2373 (para. 145).

⁴⁹² Implementation of Section 309(j) of the Communications Act -- Competitive Bidding, PP Docket No. 93-253, Second Memorandum Opinion and Order, 9 FCC Rcd 7245, 7249-50 (para. 12) (1994) (*Competitive Bidding Second Memorandum Opinion and Order*).

⁴⁹³ *Third NPRM*, 11 FCC Rcd at 113 (para. 167).

single round of bidding. We have varied our upfront payments for certain services.⁴⁹⁴ We generally, however, follow a formula of multiplying the population of the license service area by the amount of spectrum authorized by the license to determine MHz-pops and then multiplying that amount by a dollar figure.

329. In support of our proposal, CellularVision states that a substantial upfront payment ``should ensure that the process of licensing LMDS nationwide is not encumbered by frivolous bidders."⁴⁹⁵ CellularVision and ComTech, however, object to our proposal to base the minimum bid on a dollar amount per MHz-pop. CellularVision argues that the \$0.02 per MHz-pop formula used in the PCS context is not appropriate for LMDS.⁴⁹⁶ Stating that the PCS formula was designed to represent approximately five percent of the expected value of PCS licenses, CellularVision points out that a 1000 megahertz LMDS license would represent about 33 times more spectrum than the largest PCS license.⁴⁹⁷ Using the PCS formula, the upfront payment for a BTA with one million pops would be \$20 million; for the whole Nation, it would be \$5 billion. Accordingly, CellularVision argues that the Commission should use a formula far lower than the PCS model of \$0.02 per MHz-pop.⁴⁹⁸ ComTech proposes that the Commission use a bid deposit of \$0.08 per household and adjust the remaining auction rules accordingly.⁴⁹⁹ ComTech notes that initial bid deposits of \$0.08 per household would still exceed the initial deposits in the PCS proceedings, while keeping the barriers to entry low.⁵⁰⁰

330. We recognize that for purposes of LMDS the formula of \$0.02 per MHz-pop can yield very high upfront payments given the amount of spectrum offered in each service area. Rather than completely abandon our general formula for purposes of LMDS, we believe that the concerns of CellularVision and ComTech may be alleviated by lowering the \$0.02 per MHz-pop used to calculate the payment. We therefore delegate authority to the Chief, Wireless Telecommunications Bureau (``Bureau"), to determine an appropriate calculation for the upfront

⁴⁹⁴ For example, entrepreneurs bidding for C block licenses paid upfront payments of \$0.15 per MHz-pop. 47 CFR § 24.711(a)(1).

⁴⁹⁵ CellularVision Comments to *Third NPRM* at 33.

⁴⁹⁶ *Id.* at 33-34.

⁴⁹⁷ *Id.*

⁴⁹⁸ *Id.*

⁴⁹⁹ ComTech Comments to *Third NPRM* at 13.

⁵⁰⁰ *Id.* See also *Competitive Bidding Second Report and Order*, 9 FCC Rcd at 2379 (paras. 180-187).

payment, which the Bureau will announce by Public Notice.⁵⁰¹ In calculating the upfront payment, the Bureau should take into consideration the value of similar spectrum.

(2) Down Payments, Long-Form Applications, and Payment in Full

331. The *Third NPRM* proposed a 20 percent down payment for winning bidders in LMDS auctions.⁵⁰² No comments were filed on this specific proposal.

332. We will require all winning bidders in LMDS auctions to supplement their upfront payments with a down payment sufficient to bring their total deposits up to 20 percent of their winning bid(s). Winning bidders, except for small businesses and businesses with annual gross revenues between \$40 million and \$75 million, will be required to submit this payment by wire transfer to our lock-box bank within ten (10) business days following release of a public notice announcing the close of bidding and high bidders.⁵⁰³ Winning bidders will also be required to file a long-form application within ten (10) business days of the announcement of the high bidders. If, pursuant to Section 309(d) of the Communications Act, we dismiss or deny any and all petitions to deny filed against a long-form application, or if no petitions to deny are filed, we will issue an announcement to this effect, and the winning bidder will then have ten (10) business days to submit the balance of its winning bid, unless it qualifies for an installment payment plan.

(3) Bid Withdrawal, Default, and Disqualification Payments

333. As we discussed in the *Competitive Bidding Second Report and Order* it is important to the success of our system of competitive bidding that potential bidders understand that there will be a substantial payment assessed if they withdraw a high bid, are found not to be qualified to hold licenses, or default on payment of a balance due.⁵⁰⁴ In the *Third NPRM*, we proposed to use the bid withdrawal, default and disqualification rules set forth in Sections

⁵⁰¹ See, e.g., Amendment of Parts 21 and 74 of the Commission's Rules With Regard to Filing Procedures in the Multipoint Distribution Service and in the Instructional Television Fixed Service and Implementation of Section 309(j) of the Communications Act - Competitive Bidding, MM Docket No. 94-131, PP Docket No. 93-253, Report and Order, 10 FCC Rcd 9589, 9650 (paras. 135-142) (1995) (*Competitive Bidding MDS Report and Order*).

⁵⁰² *Third NPRM*, 11 Rcd at 113-14 (para. 169).

⁵⁰³ See para. 354, *infra*, for payment deadlines for small businesses and those with annual gross revenues of more than \$40 million and not more than \$75 million.

⁵⁰⁴ *Competitive Bidding Second Report and Order*, 9 FCC Rcd at 2382 (paras. 197-205).

1.2104(g) and 1.2109 of the Commission's Rules for LMDS auctions.⁵⁰⁵ No specific comments were received on this proposal.

334. For the LMDS auctions, we adopt the bid withdrawal, default and disqualification rules contained in Sections 1.2104(g) and 1.2109 of the Commission's Rules.⁵⁰⁶ If a license is re-offered by auction, the "winning bid" refers to the high bid in the auction in which the license is re-offered. If a license is re-offered in the same auction, the winning bid refers to the high bid amount, made subsequent to the withdrawal, in that auction. If the subsequent high bidder also withdraws its bid, that bidder will be required to pay an amount equal to the difference between its withdrawn bid and the amount of the subsequent winning bid the next time the license is offered by the Commission. If a license that is the subject of withdrawal or default is not re-auctioned, but is instead offered to the highest losing bidders in the initial auction, the "winning bid" refers to the bid of the highest bidder who accepts the offer.

335. If a bidder has withdrawn a bid or defaulted on one or more licenses but the amount of the withdrawal or default payment cannot yet be determined, the bidder will be required to make a deposit of up to 20 percent of the amount bid on such licenses. When it becomes possible to calculate and assess the withdrawal or default payment, any excess deposit will be refunded. Upfront payments will be applied to such deposits and to bid withdrawal and default payments due before being applied toward the bidder's down payment on licenses the bidder has won and seeks to acquire.

336. In addition, if a default or disqualification involves gross misconduct, misrepresentation or bad faith by an applicant, we retain the option to declare the applicant and its principals ineligible to bid in future auctions, or take any other action we deem necessary, including institution of proceedings to revoke any existing licenses held by the applicant.⁵⁰⁷

d. Regulatory Safeguards

(1) Transfer Disclosure

⁵⁰⁵ *Third NPRM*, 11 Rcd at 114-15 (paras. 170, 171).

⁵⁰⁶ *See* 47 CFR §§ 1.2104(g), 1.2109. We recently addressed the issue of how our bid withdrawal provisions apply to bids that are mistakenly placed and withdrawn in a decision involving the 900 MHz SMR and broadband PCS C block auctions. *See Atlanta Trunking Associates, Inc. and MAP Wireless L.L.C. Request To Waive Bid Withdrawal Payment Provisions*, FCC 96-203, Order (released May 3, 1996) (summarized in 61 Fed. Reg. 25,807 (May 23, 1996)), *recon. pending*.

⁵⁰⁷ *See Competitive Bidding Second Report and Order*, 9 FCC Rcd at 2382 (paras. 197-205).

337. The Communications Act directs us to ``require such transfer disclosures and anti-trafficking restrictions and payment schedules as may be necessary to prevent unjust enrichment as a result of the methods employed to issue licenses and permits.⁵⁰⁸ As we proposed in the *Third NPRM*, we will adopt the transfer disclosure requirements contained in Section 1.2111(a) of the Commission's Rules for all LMDS licenses obtained through the competitive bidding process.⁵⁰⁹ CellularVision agrees with the Commission's proposal not to limit transfers and assignments of LMDS licenses.⁵¹⁰ Rules governing transfer of LMDS licenses by designated entities are discussed below.⁵¹¹

(2) Anti-Collusion Rules

338. In the *Third NPRM*, we proposed to apply the anti-collusion rules set forth in Sections 1.2105 and 1.2107 of the Commission's rules to LMDS auctions.⁵¹² There were no comments filed on this proposal.

339. We will apply the anti-collusion rules set forth in Sections 1.2105 and 1.2107 of the Commission's Rules to LMDS auctions.⁵¹³ In addition, where specific instances of collusion in the competitive bidding process are alleged in petitions to deny, we may conduct an investigation or refer such complaints to the United States Department of Justice for investigation. Bidders who are found to have violated the antitrust laws or the Commission's rules in connection with participation in the auction process may be subject to forfeiture of their down payment or their full bid amount and revocation of their license(s), and they may be prohibited from participating in future auctions.

e. Treatment of Designated Entities

(1) Overview

340. In authorizing the Commission to use competitive bidding, Congress mandated that we ``ensure that small businesses, rural telephone companies, and businesses owned by members

⁵⁰⁸ 47 U.S.C. § 309(j)(4)(E).

⁵⁰⁹ *Third NPRM*, 11 Rcd at 115-16 (para. 172).

⁵¹⁰ CellularVision Comments to *Third NPRM* at 20.

⁵¹¹ See paras. 350-351, 359-361, *infra*.

⁵¹² *Third NPRM*, 11 FCC Rcd at 116-17 (para. 174).

⁵¹³ 47 CFR §§ 1.2105, 1.2107.

of minority groups and women are given the opportunity to participate in the provision of spectrum-based services."⁵¹⁴ The Communications Act requires us to "consider the use of tax certificates, bidding preferences, and other procedures" in order to achieve this Congressional goal.⁵¹⁵ In addition, Section 309(j)(3)(B) provides that in establishing eligibility criteria and bidding methodologies the Commission shall promote "economic opportunity and competition . . . by avoiding excessive concentration of licenses and by disseminating licenses among a wide variety of applicants, including small businesses, rural telephone companies, and businesses owned by members of minority groups and women."⁵¹⁶ Finally, Section 309(j)(4)(A) provides that to promote these objectives, the Commission shall consider alternative payment schedules including installment payments.⁵¹⁷

341. We stated in the *Third NPRM* that for services using the 28 GHz band we fully intend to meet the statutory objectives of promoting economic opportunity and competition, of avoiding excessive concentration of licenses, and of ensuring access to new and innovative technologies by disseminating licenses among a wide variety of applicants, including small businesses, rural telephone companies, and businesses owned by members of minority groups and women.⁵¹⁸ We noted, however, that we must be cautious and deliberative in our selected approach in light of the statute's directive to avoid judicial delays⁵¹⁹ and the substantial legal risks involved with providing preferential treatment on the basis of race or gender. In *Adarand Constructors v. Peña*, the Supreme Court held that race-based measures must be narrowly tailored to further a compelling government interest.⁵²⁰ Gender-based measures, on the other hand, are required to meet an intermediate standard of review.⁵²¹ We sought comment on how we

⁵¹⁴ 47 U.S.C. § 309(j)(4)(D). These categories of applicants are collectively known as "designated entities."

⁵¹⁵ *Id.*

⁵¹⁶ 47 U.S.C. § 309(j)(3)(B).

⁵¹⁷ 47 U.S.C. § 309(j)(4)(A).

⁵¹⁸ *Third NPRM*, 11 FCC Rcd at 119-20 (para. 180).

⁵¹⁹ 47 U.S.C. § 309(j)(3)(A).

⁵²⁰ *Adarand Constructors v. Peña*, 115 S. Ct. 2097 (1995) (holding that Federal measures awarding preferential treatment on the basis of race are subject to strict scrutiny).

⁵²¹ *See* *United States v. Commonwealth of Virginia*, 116 S. Ct. 2264 (1996) (*VMI*). In *VMI*, the Supreme Court reviewed a State program containing gender classification and held it was unconstitutional under an intermediate scrutiny standard of review. This standard requires that "[p]arties who seek to defend gender-based government action must demonstrate an 'exceedingly persuasive justification' for that action." *Id.* at 2274 (citing *J.E.B. v. Alabama*, 511 U.S. 127, 136-37 & n.6 (1994) and *Mississippi Univ. for Women v. Hogan*, 458 U.S. 718, 724 (1982) (*Mississippi*

can best promote opportunities for businesses owned by minorities and women in the provision of LMDS and satellite services in light of constitutional requirements. We also asked commenters to supply evidence regarding past discrimination, continuing discrimination, discrimination in access to capital, underrepresentation and other significant barriers facing businesses owned by minorities and women in satellite services, services similar to LMDS, and in licensed communications services generally.

342. RioVision argues that the Commission should develop special provisions to provide designated entities with realistic opportunities to participate in the auction process, including bidding credits, installment payments, and a reduced upfront payment more favorable than that suggested in the *Third NPRM*.⁵²² However, neither RioVision nor other commenters provided evidence with regard to past discrimination, continuing discrimination, or other significant barriers experienced by minorities and women.

343. We remain committed to meeting the statutory objectives of promoting economic opportunity and competition, of avoiding excessive concentration of licenses, and of ensuring access to new and innovative technologies by disseminating licenses among a wide variety of applicants, including small businesses, rural telephone companies, and businesses owned by members of minority groups and women. However, because commenters have submitted no evidence or data to support LMDS race- or gender-based auction provisions, we conclude that we do not have a sufficient record to support such special provisions at this time.⁵²³ We therefore adopt installment payments and bidding credits for small businesses in LMDS auctions as detailed *infra*. We believe that these special provisions will provide small businesses with a meaningful opportunity to obtain LMDS licenses. Moreover, many minority- and women-owned entities are

Univ. for Women)). Under this test, the Government must show "at least that the [challenged] classification serves 'important governmental objectives and that the discriminatory means employed' are 'substantially related to the achievement of those objectives.'" *Id.* at 2275 (quoting *Mississippi Univ. for Women*, 458 S. Ct. at 724 (quoting *Wengler v. Druggists Mutual Ins. Co.*, 446 U.S. 142, 150 (1980))).

⁵²² RioVision Comments to *Third NPRM* at 3.

⁵²³ There is some evidence of discrimination that is not specifically linked to LMDS. See *Competitive Bidding Fifth Report and Order*, 9 FCC Rcd at 5542 (paras. 98-102). In this connection, we note that we have initiated a comprehensive rulemaking proceeding to explore market entry barriers to women- and minority-owned businesses as well as small businesses, pursuant to Section 257 of the Communications Act. See Section 257 Proceeding to Identify and Eliminate Market Entry Barriers for Small Businesses, GN Docket No. 96-113, Notice of Inquiry, 11 FCC Rcd 6280 (1996) (*Market Entry Notice of Inquiry*).

small businesses and will therefore qualify for these same special provisions.⁵²⁴ We believe that this approach furthers the objectives of Section 309(j) of the Communications Act.

**(2) Installment Payments, Upfront Payments,
Down Payments, and Unjust Enrichment**

344. In the *Third NPRM*, we proposed to adopt installment payments for small businesses bidding for LMDS licenses.⁵²⁵ We also requested comment on the related issue of reduced upfront payments for small businesses. In the *Competitive Bidding Second Report and Order*, we concluded that a reduced down payment requirement coupled with installment payments is an effective means to address the difficulty small businesses have raising capital for spectrum licenses.⁵²⁶ In the *Third NPRM*, we proposed to use this approach in the LMDS auctions, and sought comment on whether any additional or alternative special provisions should be provided for small businesses bidding on LMDS spectrum.⁵²⁷

345. To ensure that large businesses do not become the unintended beneficiaries of installment payment provisions meant for small businesses, we also proposed to make the unjust enrichment provisions adopted in the *Competitive Bidding Second Report and Order* applicable to installment payments by small business applicants.⁵²⁸ In addition, we sought comment on the necessity of additional unjust enrichment provisions for LMDS licensing.⁵²⁹ With respect to eligibility for installment payments, we proposed to define a small business as an entity that, together with affiliates and attributable investors, has average gross revenues not exceeding \$40 million for the three preceding years.⁵³⁰

⁵²⁴ See generally *1992 Survey of Minority-Owned Business Enterprises*, Dec. 11, 1995, Agriculture and Financial Statistics Division, Bureau of the Census, U.S. Department of Commerce; *1992 Survey of Women-Owned Businesses*, Jan. 29, 1996, Agriculture and Financial Statistics Division, Bureau of the Census, U.S. Department of Commerce.

⁵²⁵ *Third NPRM*, 11 FCC Rcd at 121 (para. 186).

⁵²⁶ *Competitive Bidding Second Report and Order*, 9 FCC Rcd at 2388-90 (paras. 229, 233, 238).

⁵²⁷ *Third NPRM*, 11 FCC Rcd at 121-22 (para. 187).

⁵²⁸ *Id.* at 122 (para. 188).

⁵²⁹ *Id.*

⁵³⁰ *Id.*

346. In its comments, RioVision argues in favor of installment payments and reduced upfront payments for all designated entities.⁵³¹ Emc³ and CellularVision believe that the Commission should adopt provisions for small businesses, including installment payment options.⁵³² CellularVision encourages the Commission to consider other measures to ensure that small businesses can compete in auctions with cable and telephone service providers, such as a small business bidding credit higher than the 25 percent used in the PCS auctions.⁵³³ CellularVision also argues that if we use a revenue-based test to define small businesses, our proposed \$40 million annual gross revenues threshold is too low for LMDS purposes because it will eliminate from eligibility small businesses that are large enough to compete against entrenched cable and telephone providers. CellularVision believes that a threshold of \$100 million in annual gross revenues would be more appropriate for LMDS.⁵³⁴ Emc³ and CellularVision agree with our proposal to provide for reduced upfront payments for small business.⁵³⁵

347. CellularVision supports the proposal to place restrictions on the transfer or assignment of licenses held by designated entities, but it argues that a designated entity should be able to sell or transfer its license without restriction after the seventh year of the license term.⁵³⁶ ComTech, however, strongly urges the Commission to adopt transfer rules which would relieve the transferor of any regulatory or other burdens associated with the newly created license.⁵³⁷

348. Substantial capital will be required to acquire and construct LMDS systems.⁵³⁸ As we have previously discussed, however, it is difficult for small businesses to raise such capital.⁵³⁹ In order to promote the innovation that small businesses can bring to the development of

⁵³¹ RioVision Comments to *Third NPRM* at 3.

⁵³² Emc³ Comments to *Third NPRM* at 7; CellularVision Reply Comments to *Third NPRM* at 37-38.

⁵³³ CellularVision Reply Comments to *Third NPRM* at 37-38.

⁵³⁴ *Id.*

⁵³⁵ Emc³ Comments to *Third NPRM* at 7; CellularVision Reply Comments to *Third NPRM* at 37.

⁵³⁶ CellularVision Comments to *Third NPRM* at 20.

⁵³⁷ ComTech Comments to *Third NPRM* at 8-9.

⁵³⁸ *See, e.g.*, CellularVision Comments to *Third NPRM* at 38; NCTA Comments to *Fourth NPRM* at 2.

⁵³⁹ *See, e.g.*, *Competitive Bidding Second Report and Order*, 9 FCC Rcd at 2348 (para. 229).

LMDS,⁵⁴⁰ we adopt installment payments for small businesses bidding for LMDS licenses. We will define small businesses as entities that, together with controlling principals and affiliates, have average gross revenues not exceeding \$40 million for the three preceding years. However, to address the concerns identified by CellularVision, we also make provision for entities with gross revenues exceeding \$40 million. Broadband PCS presented a similar situation in which the considerable capital needed to bring service to the public justified special provisions for entities with financial means greater than \$40 million in average gross revenues. For the broadband PCS entrepreneurs' block auctions, we therefore provided installment payments for entities with \$75 million or less in gross revenues for the three preceding years.⁵⁴¹ We will adopt similar provisions for LMDS. We believe that low-cost government financing available through installment payment plans for such entities will promote long-term participation by more businesses which, because of their size, lack access to sufficient capital to compete with more entrenched communications providers. We believe that the high cost of LMDS and the presence of very large companies in the markets for various LMDS services make this option fully consistent with Congress's intent in enacting Section 309(j)(4)(A) to avoid a competitive bidding program that has the effect of favoring communications providers with established revenue streams over smaller entities.⁵⁴²

349. Under the rules we adopt here, installment payments will be available to applicants that, together with controlling principals and affiliates, have average gross revenues for the three preceding years of more than \$40 million but not more than \$75 million. Interest on their installment payments will be equal to the rate for U.S. Treasury obligations of maturity equal to the license term, fixed at the time of licensing, plus 2.5 percent. Payments of interest and principal shall be amortized over the ten years of the license term. Small businesses -- applicants that, together with controlling principals and affiliates, have average gross revenues for the three preceding years not to exceed \$40 million -- will be eligible for installment payments at an interest rate based on the rate for U.S. Treasury obligations of maturity equal to the license term, fixed at the time of licensing, plus 2.5 percent (the same rate as that imposed on entities with \$40 million to \$75 million in average gross revenues). Payments for small businesses shall include interest only for the first two years and payments of interest and principal amortized over the remaining eight years of the license term. The rate of interest on ten-year U.S. Treasury obligations will be determined by taking the coupon rate of interest on the ten-year U.S. Treasury notes most recently auctioned by the Treasury Department before licenses are conditionally granted.

⁵⁴⁰ See, e.g., M3ITC Comments to *Third NPRM* at 6 (asserting that small business entrepreneurs have been a major force in the development of new telecommunications services and products).

⁵⁴¹ 47 CFR § 24.711; *Competitive Bidding Fifth Report and Order*, 9 FCC Rcd at 5592 (para. 137).

⁵⁴² See H.R. Rep. No. 103-111, 103d Cong., 1st Sess., at 255 (Commission has authority to design alternative payment schedules so that the auction process does not inadvertently favor those with "deep pockets" over new or small companies).

350. We believe it is appropriate to also adopt the unjust enrichment provisions of our broadband PCS rules in order to prevent large companies from becoming the unintended beneficiaries of these installment payment plans. We believe that these rules are preferable to our current general unjust enrichment rules governing installment payments⁵⁴³ because they provide greater specificity about funds due at the time of transfer or assignment and specifically address changes in ownership that would result in loss of eligibility for installment payments, which the general rules do not address. These rules specify that applicants seeking to assign or transfer control of a license to an entity not meeting the eligibility standards for installment payments must pay not only unpaid principal as a condition of Commission approval but also any unpaid interest accrued through the date of assignment or transfer.⁵⁴⁴

351. Additionally, these rules provide that if a licensee utilizing installment payment financing seeks to change its ownership structure in such a way that would result in a loss of eligibility for installment payments, it must pay the unpaid principal and accrued interest as a condition of Commission approval of the change.⁵⁴⁵ Finally, in recognition of the tiered installment payment plans offered to broadband PCS licensees, these rules provide that if a licensee seeks to make any change in ownership that would result in the licensee qualifying for a less favorable installment plan, it must seek Commission approval of such a change and adjust its payment plan to reflect its new eligibility status. A licensee, under this rule, may not switch its payment plan to a more favorable plan.⁵⁴⁶

352. For purposes of determining small business status, or status as a business with average annual gross revenues for the preceding three years of more than \$40 million but not more than \$75 million, we will attribute the gross revenues of all controlling principals in the small business applicant as well as the gross revenues of affiliates of the applicant. This is a much simpler approach than we utilized in broadband PCS because it does not require a "control group" and looks only to the gross revenues of the applicant, controlling principals of the applicant, and affiliates of the applicant. We also choose not to impose specific equity requirements on controlling principals. We will still require, however, that in order for an applicant to qualify as a small business, qualifying small business principals must maintain control of the applicant. The term "control" includes both *de facto* and *de jure* control of the applicant. Typically, *de jure* control is evidenced by ownership of 50.1 percent of an entity's voting stock. *De facto* control is determined on a case-by-case basis. An entity must demonstrate at least the

⁵⁴³ 47 CFR § 1.2111(c).

⁵⁴⁴ 47 CFR § 24.716(c)(1).

⁵⁴⁵ 47 CFR § 24.716(c)(2).

⁵⁴⁶ 47 CFR § 24.716(c)(3).

following indicia of control to establish that it retains *de facto* control of the applicant: (1) the entity constitutes or appoints more than 50 percent of the board of directors or partnership management committee; (2) the entity has authority to appoint, promote, demote and fire senior executives that control the day-to-day activities of the licensees; and (3) the entity plays an integral role in all major management decisions.⁵⁴⁷ We caution that while we are not imposing specific equity requirements on small business principals, the absence of significant equity could raise questions about whether the applicant qualifies as a *bona fide* small business.

353. We adopt a uniform upfront payment for all bidders. Our experience in previous auctions indicates that we have underestimated the value of spectrum and that upfront payments have not created a barrier to small business participation in our auctions. We believe that this action is consistent with our policy reason for requiring upfront payments -- to deter insincere and speculative bidding and to ensure that bidders have the financial capacity to build out their systems.⁵⁴⁸

354. With regard to reduced down payments for small businesses, our experience in previous auctions leads us to adopt a uniform 20 percent down payment provision for all bidders. We believe that this sizeable down payment will discourage insincere bidding and increase the likelihood that licenses are awarded to parties who are best able to serve the public. A 20 percent down payment should also provide us with strong assurance against default and sufficient funds to cover default payments in the unlikely event of default.⁵⁴⁹ Small businesses and entities with average gross revenues for the preceding three years of between \$40 million and \$75 million will be required to supplement their upfront payments to bring their total payment to 10 percent of their winning bids within 10 business days of a public notice announcing the close of the auction. Prior to licensing, they will be required to pay an additional 10 percent. The government will then finance the remaining 80 percent of the purchase price.

(3) Bidding Credits and Unjust Enrichment

355. In the *Third NPRM* we proposed to use bidding credits for small businesses participating in LMDS auctions.⁵⁵⁰ We tentatively concluded that affording such businesses

⁵⁴⁷ See *Competitive Bidding Fifth Memorandum Opinion and Order*, 10 FCC Rcd at 447 (para. 80). See also *Ellis Thompson Corp.*, 76 Rad. Reg. (P&F) 1125, 1127-28 (1994) (where the Commission identifies factors used to determine control of a business); see also *Intermountain Microwave*, 24 Rad. Reg. (P&F) 983 (1963).

⁵⁴⁸ *Competitive Bidding Second Report and Order*, 9 FCC Rcd at 2379 (para. 192).

⁵⁴⁹ See *Broadband PCS Report and Order*, 11 FCC Rcd at 7830 (para. 79).

⁵⁵⁰ *Third NPRM*, 11 FCC Rcd at 123-24 (para. 190).

bidding credits and installment payments constitutes the most cost-effective and efficient means of achieving Congress' objective of ensuring an opportunity for these designated entities to participate in the provision of LMDS while preserving the advantages of competitive open bidding. We proposed a bidding credit of 25 percent that would be available on one of the proposed spectrum blocks. To prevent unjust enrichment by small businesses transferring licenses acquired through the use of bidding credits, we proposed imposition of a payment requirement on transfers of such licenses to entities that are not owned by small businesses.

356. While M3ITC advocates a lottery to award LMDS licenses, it states in its comments that if the licenses are auctioned, the Commission must provide a "significant bidding credit" to allow small business entrepreneurs competing in the LMDS auctions to overcome the disparity of financial resources between major corporations and small business entrepreneurs.⁵⁵¹ Emc³ advocates a 25 percent bidding credit.⁵⁵² CellularVision supports the Commission's proposal to adopt bidding credits and encourages the Commission to consider other regulatory measures, including a small business bidding credit higher than 25 percent.⁵⁵³ ComTech supports rules restricting the transfer and assignment of licenses held by designated entities, but it argues that a designated entity should be able to sell or transfer its license without restriction after the seventh year of the license term.⁵⁵⁴

357. PTV suggests that the Commission offer a bidding credit to commercial entities that propose to set aside capacity for use by noncommercial educational entities at preferential rates.⁵⁵⁵ Similarly, RioVision argues that designated entity provisions should be available to a commercial/educational partnership.⁵⁵⁶ Bell Atlantic supports these proposals and acknowledges that the public can benefit from the distribution of noncommercial programming over LMDS.⁵⁵⁷ It argues that if the Commission decides to accommodate noncommercial programming, it should do so through bidding credits as proposed by PTV.⁵⁵⁸

⁵⁵¹ M3ITC Comments to *Third NPRM* at 6.

⁵⁵² Emc³ Comments to *Third NPRM* at 7.

⁵⁵³ CellularVision Reply Comments to *Third NPRM* at 37.

⁵⁵⁴ ComTech Comments to *Third NPRM* at 8. *Cf.* CellularVision Comments to *Third NPRM* at 20.

⁵⁵⁵ PTV Comments to *Third NPRM* at 11-13.

⁵⁵⁶ RioVision Comments to *Third NPRM* at 2.

⁵⁵⁷ Bell Atlantic Reply Comments to *Third NPRM* at 8.

⁵⁵⁸ *Id.*

358. Based on the record before us, we adopt a 25 percent bidding credit for small businesses in LMDS auctions, and a 15 percent bidding credit for entities with average gross revenues of more than \$40 million but not exceeding \$75 million. Commenters who advocated higher credits offered no data upon which to base such credits. We decline to adopt the bidding credit proposed by PTV and Bell Atlantic for commercial entities that set aside part of their capacity for educational institutions at preferential rates. At this time, we do not believe that we have an adequate record regarding the legal and policy implications of such bidding credits.⁵⁵⁹

359. We believe it is appropriate to align our unjust enrichment rules for LMDS with our narrowband PCS and 900 MHz SMR unjust enrichment rules as they relate to bidding credits. These rules provide that, during the initial license term, licensees utilizing bidding credits and seeking to assign or transfer control of a license to an entity that does not meet the eligibility criteria for bidding credits will be required to reimburse the government for the total value of the benefit conferred by the government, that is, the amount of the bidding credit, plus interest at the rate imposed for installment financing at the time the license was awarded, before the transfer will be permitted.

360. The rules which we now adopt additionally provide that, if, within the original term, a licensee applies to assign or transfer control of a license to an entity that is eligible for a lower bidding credit, the difference between the bidding credit obtained by the assigning party and the bidding credit for which the acquiring party would qualify, plus interest at the rate imposed for installment financing at the time the license was awarded, must be paid to the United States Treasury as a condition of approval of the assignment or transfer. If a licensee that utilizes bidding credits seeks to make any change in ownership structure that would render the licensee ineligible for bidding credits, or eligible only for a lower bidding credit, the licensee must first seek Commission approval and reimburse the government for the amount of the bidding credit, or the difference between its original bidding credit and the bidding credit for which it is eligible after the ownership change, plus interest at the rate imposed for installment financing at the time the license was awarded. Additionally, if an investor subsequently purchases an interest in the business and, as a result, the gross revenues of the business exceed the applicable financial caps, this unjust enrichment provision will apply.

361. The amount of this payment will be reduced over time as follows: (1) a transfer in the first two years of the license term will result in a forfeiture of 100 percent of the value of the bidding credit (or, in the case of small businesses transferring to businesses having average gross revenues of more than \$40 million but not more than \$75 million, 100 percent of the difference between the bidding credit received by the former and the bidding credit for which the latter is eligible); (2) in year three of the license term the payment will be 75 percent; (3) in year four the

⁵⁵⁹ *But see* para. 306, *supra*.

payment will be 50 percent; and (4) in year five the payment will be 25 percent, after which there will be no required payment. These assessments will have to be paid to the U.S. Treasury as a condition of approval of the assignment, transfer, or ownership change.

(4) Rural Telephone Companies

362. We sought comment in the *Third NPRM* on whether we should provide bidding credits or other special provisions for rural telephone companies seeking to become LMDS providers.⁵⁶⁰ However, no comments were filed on this issue. We do not believe that special provisions are needed to ensure adequate participation by rural telephone companies in the provision of LMDS services for the same reasons stated in the *Third NPRM*.⁵⁶¹ Further, because we are providing installment payments for entities with average annual gross revenues as high as \$75 million, we believe that many rural telephone companies may qualify for installment payments. Also, the degree of flexibility we will afford in the use of this spectrum, including provisions for partitioning or disaggregating spectrum, should assist in satisfying the spectrum needs of rural telephone companies at low cost.⁵⁶² Therefore, we conclude that the interests of rural telephone companies are adequately addressed by the LMDS rules we adopt herein.

363. The ability of rural telephone companies to bid for and hold licenses in each company's respective region is subject to the eligibility requirements which are delineated in paragraphs 185-199, *supra*.

E. Preemption

1. Background; Comments

364. In the *First NPRM*, we discussed the standards that govern our determination whether State and local legal requirements imposed on LMDS licensees should be preempted. We stated that, for LMDS licensees choosing non-common carrier status, ``preemption is primarily a function of the extent of the conflict between federal and state and local regulation.⁵⁶³ We tentatively concluded that State entry and rate regulation should be preempted for such systems providing video programming. Beyond that, however, we found that at that stage in the

⁵⁶⁰ *Third NPRM*, 11 FCC Rcd at 124 (para. 194).

⁵⁶¹ *Id.*

⁵⁶² See paras. 140-145, *supra*.

⁵⁶³ *First NPRM*, 8 FCC Rcd at 562 (para. 28) (citing Federal Preemption of State and Local Regulations Pertaining to Amateur Radio Facilities, Memorandum Opinion and Order, FCC 85-506, 101 FCC 2d 952, 959 (1985)).

proceeding the record did not contain any information regarding the extent to which State and local regulations might conflict with provision of LMDS. We pointed out that, although State law which conflicts with the Federal provisions must be preempted, we required a factual record on this subject prior to making any final preemption determination.⁵⁶⁴ We requested comment on the extent to which the Commission may be required to preempt State entry and rate regulation of LMDS licensees choosing non-common carrier status.

365. For licensees providing telecommunications services as common carriers, we have jurisdiction only over the interstate portions of those services and could preempt State regulation of the intrastate common carrier LMDS services if we make certain findings under the requirements set out in *Louisiana PSC*.⁵⁶⁵ Accordingly, we requested comments on addressing the questions of whether the LMDS telecommunications services can be severed into intrastate and interstate components and, if not, whether potential State regulation would thwart or impede the Commission's interstate regulatory objectives for LMDS. We had incomplete technological information on the structure of system operations and no evidence that any particular State regulatory policies would thwart or impede our efforts to establish this new services. Commenters were asked to provide a factual basis for a determination of the interstate/intrastate nature of potential telecommunications services and the necessity of preempting State regulation of intrastate common carrier non-video services.

366. In the *Third NPRM*, we renewed our tentative conclusion that we cannot make a determination at that time that preemption of State regulation of common carrier aspects of LMDS is appropriate. We also renewed our tentative conclusion that State entry and rate regulation should be preempted for LMDS licensees providing non-common carrier video programming. With regard to all other preemption issues, we proposed to defer such issues for future consideration as they arise on a case by case basis. We requested further comments on these proposals.⁵⁶⁶

367. Comments that responded to our requests favor preemption of State and local regulation of LMDS video distribution systems and telecommunications services and of the placement of reception and transmission devices or facilities. With respect to video programming, GEC requests that we adopt rules that preempt State regulation of LMDS video services to

⁵⁶⁴ *Id.* (citing *Florida Lime & Avocado Growers, Inc. v. Paul*, 373 U.S. 132 (1963)).

⁵⁶⁵ *Id.* at 562 (para. 29) (citing *Louisiana Public Serv. Comm'n v. F.C.C.*, 476 U.S. 355 (1986) (*Louisiana PSC*), *National Association of Regulatory Utility Commissioners v. F.C.C.*, 880 F.2d 422 (D.C. Cir. 1989), *Computer III Remand Proceedings*, 6 FCC Rcd 7571, 7625-37 (1991), *Mobile Telecommunications Technologies Corporation*, 7 FCC Rcd 4061 (1992)).

⁵⁶⁶ *Third NPRM*, 11 Rcd at 94-95 (paras. 110-112).

ensure that all systems are under the same rules. It argues this is necessary for national consistency and for the operations of systems that cross States lines, which may be subject to different rate structures, programming selection, or equipment use.⁵⁶⁷ CellularVision supports our tentative conclusion that intrastate regulation of video programming should be preempted, inasmuch as such service is inherently interstate in nature and such regulation could impede competition and the prompt deployment of LMDS nationwide.⁵⁶⁸

368. Bell Atlantic also agrees that intrastate regulation of video distribution service should be preempted and argues that there is a strong Federal interest in promoting competition to monopoly cable television systems. Bell Atlantic is concerned about local regulation of transmitting and receiving antennas. It points out that the Commission has preempted local zoning restrictions with respect to satellite antennas that were found to inhibit access to satellite services. It argues that these local zoning regulations pose the same threat to the Federal interest in delivering video programming through LMDS technology and requests the Commission to expand a pending Notice of Proposed Rulemaking revising the satellite rule to cover LMDS antennas.⁵⁶⁹

369. With regard to preemption of State regulation of common carrier telecommunications service by LMDS, CellularVision agrees with our conclusion in the *Third NPRM* to defer consideration of such issues until they arise.⁵⁷⁰ Duncan points out generally that local regulations concern valid issues of health and safety, as well as land use. However, it requests that we now raise and address issues concerning zoning, land use, and other restrictions on location of towers and antenna before licensees begin to roll out a service.⁵⁷¹

2. Decision

370. As explained in *Louisiana PSC*, preemption occurs in the following ways.⁵⁷² It occurs when Congress, in enacting a Federal statute, expresses a clear intent to preempt State law or has

⁵⁶⁷ GEC Comments to *Third NPRM* at 5.

⁵⁶⁸ CellularVision Comments to *Third NPRM* at 22.

⁵⁶⁹ Bell Atlantic Comments to *Third NPRM* at 7-8 (citing Preemption of Local Zoning Regulation of Satellite Earth Stations, IB Docket No. 95-59, DA 91-577, 45-DCC-MISC-93, Notice of Proposed Rulemaking, 10 FCC Rcd 6982 (1995) (*Earth Station Notice*)).

⁵⁷⁰ CellularVision Comments to *Third NPRM* at 22.

⁵⁷¹ Duncan Comments to *Third NPRM* at 4-5.

⁵⁷² *Louisiana PSC*, 476 U.S. at 368-69.

legislated comprehensively, thus occupying an entire field of regulation so that there is no room for State law or the State law is an obstacle to the Congressional objectives. Preemption also occurs when there is outright conflict between Federal and State law, when compliance with both Federal and State law is in effect physically impossible, or when there is implicit in Federal law a barrier to State regulation. Preemption also may result not only from action taken by Congress itself, but a Federal agency acting within the scope of its congressionally delegated authority may preempt State regulation. In the *First NPRM*, we set out the general standards on which we rely to consider conflicting laws and determine when preemption is warranted, and requested commenters to submit the technical and operational information necessary to make the determination. As noted, the standards varied between common and non-common carrier services.

371. Commenters did not submit the specific information for the factual basis on which we must rely to determine whether preemption of a specific State or local regulation is warranted. While they agree with our tentative finding that we should preempt intrastate regulation of video distribution by LMDS providers, they do not indicate what regulations conflict with the potential offering of LMDS and what interests are at stake. As a new service, LMDS has not yet been initiated under the service rules we adopt here and the extent of potential conflicts with intrastate regulations is not known, particularly where no factual basis is provided for consideration. Accordingly, we will defer preemption issues in LMDS for future consideration as they arise on a case by case basis.

372. Under Commission procedures, petitions are filed for preemption with the necessary information under the pertinent standards for us to determine whether preemption is warranted. We set out below the general standards to guide petitioners in filing for preemption in those situations where Congress and our regulations do not expressly preempt certain State or local regulations. We also set out the statutory and regulatory provisions that expressly extend preemption jurisdiction to us in the services included in LMDS. The 1996 Act included several provisions that affect the intrastate regulation of telecommunications services and video programming. These include provisions that preempt or limit the intrastate regulation of antennas and facilities that address in part the concerns of Bell Atlantic, Duncan, and GEC regarding consistency in the placement and use of such equipment.

373. We are confident that State and local governments will endeavor to legislate in a manner that affords appropriate recognition to the important Federal interests at stake here in implementing LMDS and thereby avoid unnecessary conflicts with Federal policy, as well as time consuming and expensive litigation in this area. LMDS licensees that believe that local or State governments have been overreaching and may have precluded accomplishment of their legitimate communications goals should bring our policies or the law discussed here to the attention of such governments. Licensees may otherwise submit petitions for our review of the conduct that they seek to preempt.

a. Non-Common Carrier Services and Video Programming

(1) General Standards

374. As commenters point out, the courts have held that video programming services are inherently interstate and, therefore, the Commission has jurisdiction to promulgate rules and preempt State or local regulation.⁵⁷³ The Supreme Court has articulated the standards for Federal preemption of non-Federal regulation in considering cable services in *City of New York*. The Court explained that "[w]hen the Federal government acts within the authority it possesses under the Constitution, it is empowered to pre-empt state laws to the extent it is believed that such action is necessary to achieve its purposes."⁵⁷⁴ The Commission may preempt non-Federal regulations when the non-Federal body "has created an obstacle to the accomplishment and execution of the full purposes and objectives" of the Commission acting within its congressionally delegated authority.⁵⁷⁵

375. We have considered preemption petitions filed under these standards, as Bell Atlantic points out, and we subsequently adopted the proposed rules that preempt certain State and local regulation after weighing both the Federal and non-Federal interests.⁵⁷⁶ We rely on Section 1 of the Communications Act, which mandates access to communications services by all people in the United States, together with numerous powers granted by Title III of the Act and any other statutory provisions pertinent to the service all would establish the existence of a Federal interest in promoting the service. Whether local regulations interfere with any Federal objectives and there is a local interest to protect are matters for petitioners to demonstrate. Our focus is on the effect of the local interest on the Federal interest and the appropriate accommodation of the local interest involved.

(2) Over-the-Air Reception Devices for Video Programming

⁵⁷³ *United States v. Southwestern Cable Co.*, 392 U.S. 157, 168-69 (1968); *New York State Commission on Cable Television v. F.C.C.*, 669 F.2d 58, 65 (2d Cir. 1982).

⁵⁷⁴ *City of New York v. F.C.C.*, 486 U.S. 57 (1988) (*City of New York*).

⁵⁷⁵ *Fidelity Federal Sav. & Loan Ass'n v. De La Cuesta*, 458 U.S. 141, 156 (1982).

⁵⁷⁶ *Preemption of Local Zoning Regulation of Satellite Earth Stations*, IB Docket No. 95-59, DA 91-577, 45-DSS-MISC-93, Report and Order and Further Notice of Proposed Rulemaking, 11 FCC Rcd 5809, 5810-12 (paras. 10-15) (1996) (*Earth Station Report and Order*).

376. The 1996 Act provides express authority in Section 207 for the Commission to prohibit all restrictions on over-the-air reception devices.⁵⁷⁷ It required us to "promulgate regulations to prohibit restrictions that impair a viewer's ability to receive video programming service through devices designed for over-the-air reception of television broadcast signals, multichannel multipoint distribution service, or direct broadcast satellite services."⁵⁷⁸ We subsequently adopted a rule prohibiting any such governmental restriction, including any State or local law or regulation, and any nongovernmental restriction on property within the exclusive use or control of the viewer in which the viewer has a direct or indirect ownership interest.⁵⁷⁹ We requested comment on whether Section 207 applies to restrictions on property not within the exclusive use or control of the viewer and in which the viewer has a direct or indirect property interest, which remains pending a decision.

377. In adopting the new rule, we specifically found that LMDS is a closely-related service that Congress did not mean to exclude from the statutory provision and that LMDS would be governed by the same one-meter antenna-size restriction we adopted for protection under the rule for MDS and similar services.⁵⁸⁰ We also consolidated for consideration our pending proposal to modify our existing rule prohibiting certain restrictions on satellite antenna reception that we initiated in the *Earth Station Notice* and that Bell Atlantic, in its comments to the *Third NPRM* here, requested we expand to include LMDS reception. Inasmuch as the new Section 207 rule subsumes the pending proceeding and rule revision, as well as includes LMDS in its provisions, we do not need to consider Bell Atlantic's request further.

b. Common Carrier Services and Telecommunications Services

(1) General Standards

378. In *Louisiana PSC* and its progeny, the courts have articulated the general standards that traditionally govern our preemption determinations in cases where common carrier services are involved. In *Louisiana PSC*, the Supreme Court applied Section 2 of the Act in those cases and found that, although it prohibits the Commission from exercising Federal jurisdiction in

⁵⁷⁷ Telecommunications Act of 1996, Section 207, 47 U.S.C. § 207.

⁵⁷⁸ *Id.*

⁵⁷⁹ Preemption of Local Zoning Regulation of Satellite Earth Stations: IB Docket No. 95-59, Implementation of Section 207 of the Telecommunications Act of 1996 and Restrictions on Over-the-Air Reception Devices, Television Broadcast Service and Multichannel Multipoint Distribution Service: CS Docket No. 96-83, Report and Order, Memorandum Opinion and Order, and Further Notice of Proposed Rulemaking, FCC 96-328, released Aug. 8, 1996 (adopting new Section 1.4000 of the Commission's Rules).

⁵⁸⁰ *Id.* at paras. 30, 37.

connection with intrastate communications services, we may preempt State regulation of intrastate service when it is not possible to separate the interstate and intrastate components of the asserted Commission regulation.⁵⁸¹ Federal courts subsequently have held that where interstate services are jurisdictionally mixed with intrastate services and facilities otherwise regulated by the States, State regulation of the intrastate service that affects interstate service may be preempted where the State regulation thwarts or impedes a valid Federal policy.⁵⁸² As we stated in the *First NPRM*, petitioners seeking preemption under this standard would provide information on the severability of the interstate and intrastate service and on the State regulatory policies that thwart or impede our efforts in establishing the inseverable LMDS services.⁵⁸³

379. However, the 1996 Act includes a broad, preemption provision in Section 253 for the removal of State or local barriers to entry of telecommunications service. Section 253(a) provides that "[n]o State or local statute or regulation, or other State or local legal requirement, may prohibit or have the effect of prohibiting the ability of any entity to provide any interstate or intrastate telecommunications services."⁵⁸⁴ Certain traditional authorities of the States and local governments are preserved in Sections 253(b) and (c), but expressly defined.⁵⁸⁵

380. We did not initiate a rulemaking to implement Section 253. Rather, Section 253(d) directs the Commission to rule on a petitioner's preemption request after public notice and an opportunity for comment on a particular State or local requirement.⁵⁸⁶ We considered the first petition filed under its provisions by Classic Telephone, Inc., in a Memorandum Opinion and Order released October 1, 1996.⁵⁸⁷ We concluded that Section 253(a) at the very least proscribes the State and local legal requirements found in the petition that prohibit all but one entity from providing telecommunications services in a particular State or locality.⁵⁸⁸ We determined under

⁵⁸¹ *Louisiana PSC*, 476 U.S. at 375 n.4.

⁵⁸² *Illinois Bell Tel. v. F.C.C.*, 883 F.2d 104 (D.C. Cir. 1989); *California v. F.C.C.*, 905 F.2d 1217 (9th Cir. 1990).

⁵⁸³ *First NPRM*, 8 FCC Rcd at 562 (paras. 29-30).

⁵⁸⁴ 47 U.S.C. § 253(a).

⁵⁸⁵ 47 U.S.C. § 253(b), 253(c).

⁵⁸⁶ 47 U.S.C. § 253(d).

⁵⁸⁷ *Classic Telephone*, Petition for Preemption, Declaratory Ruling, and Injunctive Relief, CCB Pol 96-10, Memorandum Opinion and Order, 11 FCC Rcd 13082 (*Classic Order*), petition for review docketed sub nom. *City of Bogue, Kansas, and City of Hill City, Kansas v. F.C.C.*, No. 96-1432 (D.C. Cir. filed Nov. 22, 1996). A petition for further enforcement was filed in the docket on December 13, 1996.

⁵⁸⁸ *Classic Order*, 11 FCC Rcd at 13084 (para. 25).

Section 253 to preempt the decisions denying petitioner's franchise applications. We recently granted another petition under Section 253(a), which was filed by the New England Public Communications Council to preempt a State decision that prohibits a particular class of potential competitors from offering telecommunications services in the State.⁵⁸⁹

(2) Personal Wireless Service Facilities

381. Section 704(a) of the 1996 Act establishes a national wireless telecommunications facilities siting policy by amending Section 332(c) of the Act to include a new paragraph (7) that places limitations on State and local regulation of "the placement, construction, and modification of personal wireless service facilities" by requiring that such regulations not unreasonably discriminate among providers of functionally equivalent services, and not prohibit the provision of personal wireless services.⁵⁹⁰ In addition, we are expressly authorized in Section 332(c)(7)(B)(iv) to preempt State and local regulations based on the environmental effects of RF emissions if the facilities comply with our regulations governing such emissions. We recently adopted updated RF exposure guidelines that our licensees are required to follow.⁵⁹¹ Section 704(a) further provides procedures for any person adversely affected by State and local regulations, other than those regarding RF emissions, to seek relief from the State or local authority first and ultimately from the court, rather than the Commission.⁵⁹² In cases involving State or local regulation based on RF emissions, any person adversely affected may petition the Commission for relief.

382. Thus, to the extent an LMDS licensee qualifies as a personal wireless service, it may file under the procedures in Section 332(c)(7)(B) concerning the siting of its antenna or other facility for providing services based on RF concerns. Personal wireless services are defined in Section 332(c)(7)(C) as "commercial mobile services, unlicensed wireless services, and common carrier wireless exchange access services." An LMDS licensee may engage in exchange access services.

III. ORDER ON RECONSIDERATION OF WAIVER APPLICATION DENIALS

⁵⁸⁹ New England Public Communications Council, Petition for Preemption Pursuant to Section 253, CCB Pol 96-11, Memorandum Opinion and Order, FCC 96-470, released Dec. 10, 1996 (*New England Payphone Order*).

⁵⁹⁰ 47 U.S.C. § 332(c)(7)(B).

⁵⁹¹ *RF Guidelines Report and Order*, at paras. 166-168, Appendix C.

⁵⁹² 47 U.S.C. §§ 704, 332(c)(7). We reviewed the provisions in two Fact Sheets. National Wireless Facilities Siting Policies, Fact Sheet #1, Document Number 6507, released Apr. 23, 1996, and Fact Sheet #2, Document Number 6508, released Sept. 17, 1996.

A. Background; Pleadings

383. In conjunction with the *First NPRM*, we denied 971 waiver applications filed by parties in the wake of *Hye Crest Management* seeking waivers similar to those we granted to authorize CellularVision's predecessor-in-interest to provide LMDS in the NYPMSA.⁵⁹³ The Commission denied the applications because they were based on the existing point-to-point rules which we concluded were inappropriate for LMDS; because granting the applications would have resulted in a *de facto* reallocation of the spectrum; and because grant of the waivers would have been detrimental to the assigned users of the band. In addition, we found that grant of so many waivers would have been contrary to guidance provided by the courts.⁵⁹⁴

384. The Texas Petitioners have requested that we reconsider our denial of their applications for service in the Rio Grande Valley area. In addition, Gustine filed a petition for reconsideration. These parties argue that their applications are unique. The Texas Petitioners argue that their plan will allow distance education to revitalize the Rio Grande Valley region. Gustine distinguishes its application because no other applicant is a municipality, and no other applicant brings Gustine's unique features to the proposed service offering.

385. Video/Phone has taken the lead for a number of other waiver applicants, each of which has filed brief, nearly identical petitions endorsing Video/Phone's petition.⁵⁹⁵ Video/Phone claims that it would still be possible for the Commission to meet the needs of future point-to-point applicants even if it were to grant the waiver applications.⁵⁹⁶ Video/Phone argues it was arbitrary and capricious for the Commission to dismiss the waiver requests without considering the merits of each or the public interest benefits that would result from prompt deployment of the new services.

386. The Joint Petitioners filed a separate petition for reconsideration, in addition to a petition supporting Video/Phone's petition. The parties argue that (1) if an application was accepted for filing in the Commission's public notices and if there are no mutually exclusive

⁵⁹³ See *First NPRM*, 8 FCC Rcd at 564-65 (paras. 51-53), Appendix C.

⁵⁹⁴ See, e.g., *WAIT Radio v. F.C.C.*, 418 F.2d 1153 (D.C. Cir. 1969) (*WAIT Radio*).

⁵⁹⁵ See Petitions for Reconsideration filed by Alliance Associates, Birnbaum, BMW, Buchwald, Celltel, Chester, Clark, CPCCI, Cornblatt, CTC Corp, Evanston, Feinberg, Fraiberg, FTI, Goldberg, Hall, Hascoe, LDH, Likins, Lonergan, Meeker, Melcher, Myers, Peyser, PMJ, La Blanc, J. Robertson, S. Robertson, Rosenkranz, R&R, SCNY, Seaview, L. Siegel, M. Siegel, Sloan, SMC, Snelling, TIC, THI, VCC, Wechsler, and Wolff.

⁵⁹⁶ Video/Phone's petition includes an exhibit comprised of a statement by Don Franco, President of Video/Phone Systems, Inc., suggesting that any point-to-point applications that may be filed in the 28 GHz band could be accommodated notwithstanding the existence of point-to-multipoint systems in the same band.

applications filed; and (2) if an MMDS system cannot be established in the market, then good cause is shown to grant a waiver application.

387. M3ITC filed a petition for reconsideration asserting that its applications are unique because of its wholly local orientation. GEC suggests several procedural alternatives for the Commission to reduce the number of applications which it considers for grant.⁵⁹⁷ Finally, CHT argues that the Commission's dismissal of its application and waiver request without regard to the merits is an abuse of the Commission's discretion and a violation of CHT's procedural due process rights.

B. Decision

388. As a threshold matter, we note that, although the Commission has wide latitude to choose whether it will proceed by adjudication (*e.g.*, waiver proceedings) or by rulemaking,⁵⁹⁸ it is nevertheless the case that guidance from the courts indicates that issues of general applicability are more suited to rulemaking than to adjudication.⁵⁹⁹ Here, we conclude that the practical effect of granting the waiver applicants' requests to relieve them of the obligation of providing point-to-point service, in a frequency band for which only point-to-point service rules existed, would have established a policy of general applicability to all operators in the 28 GHz band. This is particularly true because, if we had granted a large portion of the waivers requested, there would have been few, if any, geographic areas available for point-to-point service in this band. Moreover, the attempts by some petitioners to reduce, through *post facto* procedural rules, the number of applications which we would consider simply would serve to establish further policies of general applicability, albeit of an exclusionary nature. Accordingly, in fairness to all parties interested in providing services in the 28 GHz band, we chose to proceed by rulemaking rather than the adjudicatory path of waiver.

⁵⁹⁷ The alternatives include considering all applications after a lottery resolves mutually exclusive situations; considering only applications placed on public notice by the date of the freeze; considering only applications which are the sole applications in a given market area; considering only applications which are the sole applications and which have been placed on public notice; and considering only applications received as of a designated date, set by the Commission, intended to limit waiver requests to a number which can be reviewed and processed with reasonable expedition.

⁵⁹⁸ See *SEC v. Chenery Corp.*, 332 U.S. 194 (1947).

⁵⁹⁹ *National Small Shipment Traffic Conf. v. I.C.C.*, 725 F.2d 1442, 1447-48 (D.C. Cir. 1984) ("Trial-like procedures are particularly appropriate for retrospective determination of specific facts . . . [while] [n]otice-and-comment procedures . . . are especially suited to determining legislative facts and policy of general, prospective applicability.").

389. In addition, the features in applications for which the applicants claim uniqueness as a justification for favorable adjudication of their waiver requests are not the type for which retrospective determination is appropriate. For example, the extent to which educational institutions, local interests, or municipal entities may be favored in the licensing process is a matter of public policy of general applicability. Such policy often may be better ascertained after a notice-and-comment rulemaking proceeding. The specific public interest factors justifying award of an individual application are part of the policy determination which is this Commission's responsibility to ascertain in connection with adjudication of individual applications.⁶⁰⁰ Again, we believe that in this case, rulemaking rather than individual adjudication is the better method to set national policy in a matter of frequency designation.

390. Even had we chosen to proceed by waiver, applicants have not met the applicable standards. Guidance on standards for waiving our rules is provided by the courts: "[a]n applicant for waiver faces a high hurdle even at the starting gate."⁶⁰¹ On appeal, the petitioner must show that the Commission's action was based on insubstantial reasons amounting to an abuse of discretion.⁶⁰² Our specific standards for the waiver of a frequency allocation are discussed in *Big Bend Telephone*.⁶⁰³ *Big Bend Telephone* sets forth the following demonstrations necessary for a waiver: "that the existing frequency allocation is not suited or is insufficient to accommodate the applicant's requirements; that the frequencies requested are under-utilized; that the proposed use of the frequencies will not be detrimental to their assigned users; and that the public interest will be served by a grant of the waiver."⁶⁰⁴ Two of the *Big Bend Telephone* standards are relevant here: that the proposed use of the frequencies will not be detrimental to their assigned users, and that the public interest will be served by grant of the waiver. As discussed below, petitioners do not meet these standards for waiver of our rules.

1. Effect on Assigned Users

⁶⁰⁰ Cf. *F.C.C. v. National Citizens Committee for Broadcasting*, 436 U.S. 775, 810 (1978) ("[T]he weighing of policies under the 'public interest' standard is a task that Congress has delegated to the Commission in the first instance.").

⁶⁰¹ *WAIT Radio*, 418 F.2d at 1157.

⁶⁰² *Turro v. F.C.C.*, 859 F.2d 1498 (D.C.Cir. 1988).

⁶⁰³ *Big Bend Telephone Company, Inc. and Dell Telephone Cooperative, Inc.*, File Nos. 14850-CF-P-84 through 14949-CF-P-84, File Nos. 14811-CF-P-84 through 14848-CF-P-84 2, Memorandum Opinion and Order, 2 FCC Rcd 2413 (1986) (*Big Bend Telephone*).

⁶⁰⁴ *Id.* at 2414 (para. 13) (footnote omitted).

391. Petitioners argue that the *First NPRM* was inconsistent in finding that the 28 GHz frequency band was fallow while at the same time finding that grant of the waiver applications would be detrimental to the assigned users of the 28 GHz band. First, we note that the *Big Bend Telephone* standards require findings both that the frequencies are under-utilized and that the proposed use of the frequencies will not be detrimental to their assigned users. In *Big Bend Telephone*, the Commission found that the Broadcast Auxiliary frequencies at issue were lying fallow, but we could not conclude that the proposed use of the frequencies would not be detrimental to their assigned users because such use might foreclose future broadcast auxiliary users.⁶⁰⁵

392. Similarly, in our Order denying the petitions for waiver of our 28 GHz band rules, we found that granting these petitions for waiver would be detrimental to the assigned users defined as potential common carrier point-to-point applicants. We believe that the potential for point-to-point applicants was not speculative because Harris had filed a petition for rulemaking requesting the Commission to channelize the 28 GHz band for manufacturers of point-to-point equipment. The point-to-point manufacturing industry was prepared to begin developing equipment for the band. Harris's petition was addressed in the *First NPRM*, but the channelization proposed in the *First NPRM* was not consistent with that proposed by Harris. We determined that point-to-point service was not the best use of the band, and proposed redesignating the entire 2 gigahertz to be used for point-to-multipoint services.

393. By making this proposal, we would have removed the spectrum from availability to point-to-point users except on the basis of case-by-case coordination. At a minimum, this was an issue on which the Commission could expect to receive comments from point-to-point service providers. Accordingly, in view of the interest expressed by point-to-point manufacturers, and their request that channelization be proposed in a manner inconsistent with LMDS channelization, it is obvious that granting waiver applicants' requests would have been detrimental to the assigned users, namely, potential point-to-point service providers and equipment manufacturers.⁶⁰⁶

394. In addition, we do not agree with Video/Phone's suggestion that gradual deployment of service in the 28 GHz band would protect the interests of point-to-point licensees if any were to be licensed in the band. Video/Phone's exhibit acknowledges that if we were to authorize any point-to-point licensees in the 28 GHz band, they ultimately would have to be moved out of the band to new spectrum as LMDS expands. In view of the facts that such spectrum has not been identified, and neither have the policies for how the incumbents would be relocated to new

⁶⁰⁵ *Id.* at 2414 (para. 16).

⁶⁰⁶ With the issuance of *Hye Crest Management*, only half of the 28 GHz band was authorized for point-to-multipoint service in one metropolitan area. The remainder of the 28 GHz band was still available for point-to-point service in all other service areas.

spectrum, we do not believe that this option is viable. Our experience with relocating incumbent point-to-point microwave licensees for PCS has taught us that this is not a procedure which we would deliberately establish for the future.

395. Subsequent events have proven that the decision in the *First NPRM* was appropriate. TIA and Harris have vigorously opposed our proposals with regard to point-to-point services in the 28 GHz band throughout this proceeding. These point-to-point industry representatives insist that the proposed LMDS rules are inconsistent with the parties' preferred method of operations. Such issues are more appropriately examined in the context of a rulemaking than in the context of individual adjudicatory proceedings for hundreds of waiver applications.

396. Moreover, although not clearly foreseen in the *First NPRM*, there are other assigned users of the 28 GHz band for whom grant of the waiver applications would have been detrimental. Fixed satellite service uplinks are also authorized to be licensed in the 28 GHz band.⁶⁰⁷ The *First NPRM* requested comment from fixed satellite service providers and many of them responded, indicating their extensive plans for using this spectrum. These parties have indicated that their plans are not able to be coordinated with point-to-point use.⁶⁰⁸ Accordingly, subsequent events have borne out the correctness of the Commission's finding that grant of the waiver applications would have been detrimental to the assigned users of the band.

2. Evaluation of Public Interest Arguments

397. The *First NPRM* also stated that the waiver applications were being denied because of our conclusion that the existing point-to-point rules were not appropriate for the service proposed by applicants, and it thus would not be in the public interest to grant the waivers because such a grant would result in the offering of services on a widespread basis that were not congruent with the existing licensing framework. For example, waiver applicants requested a minimum of 1 gigahertz of spectrum each. The typical point-to-point application would request only 6 megahertz of spectrum. Moreover, the geographic area to be covered normally would be only that involved in the direct line between two directionalized antennas, rather than entire metropolitan areas as proposed by waiver applicants. Grant of a point-to-point application would not normally preclude grant of another application on the same frequency in the same geographic area, since highly directionalized antennas can be coordinated so as not to cause interference to one another.

⁶⁰⁷ 47 CFR § 2.106.

⁶⁰⁸ See, e.g., Hughes Comments to *First NPRM* at 2. See also Hughes Comments to *Third NPRM* at 5; Orion Comments to *Third NPRM* at 2-3; Motorola Comments to *Third NPRM* at 5-6; Teledesic Comments to *Third NPRM* at 3.

398. On the other hand, grant of the waiver applications would have precluded another applicant from using the same frequencies in an entire geographic area. Finally, mutually exclusive applicants for Part 21 fixed microwave spectrum must be designated for comparative hearing. This is the only procedure available to choose among mutually exclusive waiver applicants. Thus, the lottery procedures suggested by some petitioners could not have been conducted without an additional rulemaking proceeding. In sum, the nature of the services sought to be offered pursuant to the waiver applications, unlike point-to-point applications, raised a host of issues that extended beyond the bounds of the services contemplated under the existing point-to-point rules. We thus concluded that grant of the waivers would not serve the public interest, and the parties seeking reconsideration of that conclusion present no facts or arguments that cause us to alter our determination.

399. Petitioners contend that their applications should have been granted notwithstanding the pendency of the rulemaking. Video/Phone in particular argues that, consistent with our previous practice, we could have granted the applications subject to the outcome of the rulemaking and subject to modification if the rulemaking resulted in parameters different from those authorized in the conditional grant. None of the cases cited by Video/Phone proposes to redesignate a large block of spectrum and to establish a new service comprised of a unique combination of telecommunications services using new technology, as is the case here. The potential differences between the current point-to-point rules and the rules needed for the proposed point-to-multipoint services involving both video distribution and telephony services involve major issues such as eligibility standards for applicants, the configuration of geographic service areas, the regulatory status of licensees, build-out requirements, and the technical parameters of services offered by licensees. Such fundamental changes between old and new rules could require extensive and fundamental changes to conditional licenses granted under earlier rules. Such changes could seriously disrupt service to the public, and therefore, would not be in the public interest in this case.

400. Several of the petitioners argue that bringing needed services to the public justifies granting the applications subject to the outcome of the rulemaking. While it is true that the public interest is strong in facilitating the entry of competitors in the video distribution and telephony markets, we believe that the public interest is better served by developing consistent rules for this competitive entry through a notice and comment proceeding.

401. Some petitioners argue that grant of the waivers and the resulting deployment of new technology would give practical experience with the services and give the United States a "head start" with the new service, and that failing to do so would jeopardize the national interest by delaying introduction of the new technology. We observe, however, that the single grant to CellularVision has provided some practical experience with the new technology, and other

manufacturers have proceeded with development of other types of LMDS technology.⁶⁰⁹ Moreover, the pendency of this rulemaking proceeding has served to stimulate both domestic and foreign interest in LMDS in the 28 GHz band. Far from exerting a chilling effect, as some commenters feared, the instant proceeding is regarded with interest around the world.

3. Claims Regarding Nature of Services and Types of Applicants

402. Individual waiver applicants claim that the unique qualities of their service proposals justify their receiving a grant, even if most other such applications are not justified.⁶¹⁰ We have never found, however, that local expertise is a necessary element for video distribution or the provision of common carrier services. Local expertise is of some value in the cable television and broadcast mass media, where licensees hold a public trust and must ensure that they serve the locality in which they operate. No such requirement, however, is currently imposed on wireless cable or telephony operators. In addition, petitioners proposing this criterion in support of a waiver may have done so in the context of the lottery authority where local applicants were often competing with hundreds of other applications. That situation is no longer a problem since we have received competitive bidding authority. Accordingly, local presence or expertise is not a determining factor for waiver of our frequency designation rules in this case.

403. In addition, the Joint Petitioners suggest that the issue of whether MMDS is available in the area for which a waiver application has been filed should be a factor in evaluating whether to grant the applications for waiver. While we appreciate that the Joint Petitioners' proposal was designed to bring video distribution service in some form to areas which might have fallen outside an area of adequate signal strength from MMDS stations, we have chosen to address this service issue through a rulemaking proceeding. We have redesigned the MMDS rules and have already begun the licensing process for MMDS in BTAs.⁶¹¹ Thus, MMDS should be more easily available to persons in the situation described by the Joint Petitioners.

404. Two other parties suggest that their applications are unique and deserve separate consideration. Gustine and UTPA argue that, because they are a municipality and an educational institution, respectively, their waivers should be granted. We acknowledge the benefits that petitioners' proposals could bring to their areas, particularly UTPA's proposal for providing distance education in the Rio Grande Valley through an arrangement with RioVision. On balance, however, we do not believe it is necessary to grant these waiver requests in order to meet our

⁶⁰⁹ Moreover, a number of manufacturers acquired experimental licenses in the 28 GHz band to test equipment which they were developing.

⁶¹⁰ See Gustine Petition at 3; M3ITC Petition at 2; CHT Petition at 3; UTPA Petition at 4.

⁶¹¹ See *Competitive Bidding MDS Report and Order*.

commitment to facilitating communications in education. As we have already stated, we believe that licensing of LMDS should be based on our newly adopted LMDS rules, rather than through the granting of waivers of our prior licensing and service rules for use of spectrum in the 28 GHz band. We believe that Gustine and UTPA will have the opportunity to obtain access to LMDS services by purchasing those services from a commercial LMDS licensee, by obtaining a 150 megahertz LMDS license within their BTA, or through the disaggregation or partitioning of an LMDS license. And, as noted in paragraph 306, *supra*, we reserve our right, in the future, to adopt requirements to address these needs. Accordingly, we believe that the rules promulgated herein will meet these petitioners' needs and that granting their waiver requests would not be appropriate.

405. Some petitioners propose that we use a variety of procedural cut-off methods to distinguish among the waiver applications.⁶¹² Without addressing our authority to institute retroactive eligibility and application cut-off rules, we clarify that our statement in the *First NPRM* regarding the large number of waiver applications would have been equally applicable if only a few waiver applications had been filed. Any showing of further interest in point-to-multipoint service in the 28 GHz band would have triggered our decision to institute a rulemaking procedure to accommodate the new service.⁶¹³ Accordingly, limiting the number of waiver applications that qualify for processing would not have reached the underlying problems associated with the fundamental spectrum use issues raised by these applicants.

406. In sum, none of the petitions for reconsideration will be granted because (1) the proposed use of frequencies was detrimental to the assigned users at the time they were filed; (2) the applications do not meet the public interest standards followed by this Commission for waiver of frequency designation; and (3) the unique offers of service or type of applicant do not outweigh the countervailing public interest in the resolution of the fundamental service issues by rulemaking proceeding rather than adjudication.

IV. FIFTH NOTICE OF PROPOSED RULEMAKING

A. Introduction

407. In the Order we are adopting today we have concluded that we will permit any holder of an LMDS license to partition or disaggregate portions of its authorization. In the recent *Partitioning and Disaggregation Report and Order* we expanded our rules to permit geographic partitioning and disaggregation for broadband PCS licensees, and we sought comment on

⁶¹² See GEC Petition at 2; Video/Phone Petition at 11.

⁶¹³ Cf. *Hye Crest Management*, 6 FCC Rcd at 334 (para. 18).

geographic partitioning and spectrum disaggregation in the case of licensees holding cellular or General Wireless Communications Service (GWCS) licenses.⁶¹⁴

408. We have previously examined partitioning and disaggregation issues for other services on a service-by-service basis. We presently permit, or are seeking comment on, geographic partitioning and spectrum disaggregation for several services, *e.g.*, MDS,⁶¹⁵ GWCS,⁶¹⁶ 800 MHz Specialized Mobile Radio (SMR),⁶¹⁷ paging,⁶¹⁸ 38 GHz fixed point-to-point microwave,⁶¹⁹ 900 MHz SMR,⁶²⁰ and WCS.⁶²¹

⁶¹⁴ Geographic Partitioning and Spectrum Disaggregation by Commercial Mobile Radio Services Licensees, WT Docket No. 96-148, Implementation of Section 257 of the Communications Act -- Elimination of Market Entry Barriers, GN Docket No. 96-113, Report and Order and Further Notice of Proposed Rulemaking, FCC 96-474, paras. 93-113 (released Dec. 20, 1996) (*Partitioning and Disaggregation Report and Order*).

⁶¹⁵ *Competitive Bidding MDS Report and Order*, 10 FCC Rcd at 9614-15 (paras. 46-47). Additionally, we impose unjust enrichment provisions for partitioning by small businesses to other businesses. See Amendment of Parts 21 and 74 of the Commission's Rules With Regard to Filing Procedures in the Multipoint Distribution Service and in the Instructional Television Fixed Service, MM Docket No. 94-131, Memorandum and Order on Reconsideration, 10 FCC Rcd 13821, 13833 (paras. 69-70) (1995).

⁶¹⁶ Allocation of Spectrum Below 5 GHz Transferred from Federal Government Use, ET Docket No. 94-32, Second Report and Order, 11 FCC Rcd 624, 665 (para. 105) (1995) (*GWCS Second Report and Order*), *recon. pending* (permitting rural telephone company partitioning).

⁶¹⁷ Amendment of Part 90 of the Commission's Rules to Facilitate Future Development of SMR Systems in the 800 MHz Frequency Band, PR Docket No. 93-144, First Report and Order, Eighth Report and Order, and Second Further Notice of Proposed Rule Making, 11 FCC Rcd 1463, 1576, 1578, 1580 (paras. 253, 257, 264) (1995) (*800 MHz Second FNPRM*) (requesting comment on partitioning and disaggregation).

⁶¹⁸ Revision of Part 22 and Part 90 of the Commission's Rules to Facilitate Future Development of Paging Systems, WT Docket No. 96-18, Second Report and Order and Further Notice of Proposed Rulemaking, FCC 97-59 (released Feb. 24, 1997).

⁶¹⁹ Amendment of the Commission's Rules Regarding the 37.0-38.6 GHz and 38.6-40.0 GHz Bands, ET Docket No. 95-183, Notice of Proposed Rule Making and Order, 11 FCC Rcd 4930, 4942-43, 4972-73 (paras. 24, 89-90) (1995) (*38 GHz NPRM*) (proposing partitioning for rural telephone companies, and seeking comment on whether partitioning and disaggregation should be available to all licensees in the 37 GHz band).

⁶²⁰ Amendment of Parts 2 and 90 of the Commission's Rules to Provide for the Use of 200 Channels Outside the Designated Filing Areas in the 896-901 MHz and the 935-940 MHz Bands Allotted to the Specialized Mobile Radio Pool, PR Docket No. 89-553, Second Order on Reconsideration and Seventh Report and Order, 11 FCC Rcd 2639, 2711-12 (paras. 177-179) (1995) (*900 MHz Second Reconsideration Order*) (adopting rural telephone company partitioning). On September 20, 1996, American Mobile Telecommunications Association, Inc., filed a Petition for Rulemaking requesting the Commission to expand its rules to permit partitioning to include all 900 MHz SMR licenses and to permit spectrum disaggregation. See American Mobile Telecommunications Association, Inc., Files Petition for Rulemaking to Expand Geographic Partitioning and Spectrum Disaggregation Provisions for 900 MHz SMR, Public

409. We believe that it is necessary, as part of the next phase of our LMDS rulemaking, to propose specific procedural, administrative, and operational rules to ensure effective implementation of the general partitioning and disaggregation rules we have adopted today. It is our tentative view that a more complete delineation of these partitioning and disaggregation mechanisms, which we hope to achieve in this rulemaking, will ensure realization of the competitive benefits that are at the core of our partitioning and disaggregation policy.⁶²²

B. Discussion

1. In General

410. In this Fifth Notice of Proposed Rulemaking we will seek comment as to how various requirements imposed on LMDS licensees (*e.g.*, construction requirements) may be modified if such licensees partition or disaggregate their authorization. We seek comment as to whether partitioning of LMDS licenses should be permitted in a manner similar to the rules for partitioning we have adopted for broadband PCS licensees. In addition, we seek comment as to specific procedural, administrative, and operational rules under which LMDS licensees are permitted to disaggregate their licensed spectrum.

411. In the following paragraphs we seek comment on specific aspects of partitioning and disaggregation, which we will need to address in order to administer the general partitioning and disaggregation rules for LMDS licensees that we have adopted in this Second Report and Order. For example, we seek comment as to whether there are any technical or regulatory constraints unique to the LMDS service that would render any aspects of partitioning or disaggregation impractical or administratively burdensome. Further, we recognize that there are special competitive bidding issues, similar to those raised in the broadband PCS context, that must be resolved if we permit partitioning and disaggregation for LMDS. We shall address those issues separately in paragraphs 420 through 422, *infra*.

2. Available License Area

412. In the *Partitioning and Disaggregation Report and Order*, we found that allowing partitioning of broadband PCS licenses along any service area defined by the parties is the most

Notice, DA 96-1654 (released Oct. 4, 1996). That Petition for Rulemaking was incorporated into the 800 MHz rulemaking proceeding, PR Docket No. 94-144, where similar partitioning and disaggregation issues are being considered. *Id.*

⁶²¹ See *WCS Report and Order*.

⁶²² See para. 145, *supra*.

logical approach.⁶²³ We concluded that allowing the parties to define the partitioned PCS service area would allow licensees to design flexible and efficient partitioning agreements which would permit marketplace forces to determine the most suitable service areas. We also found that requiring PCS partitioning along county lines was too restrictive and might discourage partitioning.⁶²⁴

413. We have decided to base LMDS licenses on BTA geographic service areas, finding that BTAs are logical licensing areas for LMDS because they comprise areas within which consumers have a community of interest. We tentatively conclude that a flexible approach to partitioned areas, similar to the one we adopted for broadband PCS, is appropriate for LMDS. We therefore propose to permit partitioning of LMDS licenses based on any license area defined by the parties. We seek comment on this proposal, and in particular on whether there are any technical or other issues unique to the LMDS service that might impede the adoption of a flexible approach to defining the partitioned license area.

3. Minimum or Maximum Disaggregation Standards

414. We seek comment as to whether we should augment our general rule permitting disaggregation of LMDS spectrum in order to establish minimum disaggregation standards. We seek to determine whether, given any unique characteristics of LMDS, technological and administrative considerations warrant the adoption of such standards. We seek comment as to whether we should adopt standards which would be flexible enough to encourage disaggregation while providing a standard which is consistent with our technical rules and by which we would be able to track disaggregated spectrum and review disaggregation proposals in an expeditious fashion.

4. Combined Partitioning and Disaggregation

415. We seek comment regarding whether combined partitioning and disaggregation should be permitted for LMDS. By "combined" partitioning and disaggregation we refer to circumstances in which a licensee would be authorized, for example, to obtain a license for a portion of a BTA with only a portion of the 1,150 megahertz license or the 150 megahertz license involved in the disaggregation of spectrum. As another example, the licensee could obtain a license consisting of a partitioned portion of one or more other licenses held by other LMDS providers *and* a disaggregated portion of one or more other licenses held by other LMDS providers. We tentatively conclude that we should permit such combinations in order to provide

⁶²³ *Partitioning and Disaggregation Report and Order*, at para. 24.

⁶²⁴ *Id.* at paras. 23-24.

carriers with the flexibility they need to respond to market forces and demands for service relevant to their particular locations and service offerings.

5. Construction Requirements

416. In the Order we have adopted today we have promulgated a performance standard under which a licensee must make a showing of substantial service at the end of the license term.⁶²⁵ In the case of partitioned LMDS licenses, we propose that the partitionee must certify that it will satisfy the same construction requirements as the original licensee. The partitionee then must meet the prescribed service requirements in its partitioned area while the partitioner is responsible for meeting those requirements in the area it has retained.

417. In the case of disaggregated LMDS licenses, we propose to adopt rules for LMDS licensees similar to those disaggregation certification rules we have adopted for broadband PCS.⁶²⁶ Under such a certification approach, the disaggregating parties would be required to submit a certification, signed by both the disaggregator and disaggreatee, stating whether one or both of the parties will retain responsibility for meeting the performance requirement for the LMDS market involved. If one party takes responsibility for meeting the performance requirement, then actual performance by that party would be taken into account in a renewal proceeding at the end of the license term, but such performance would not affect the status of the other party's license. If both parties agree to share the responsibility for meeting the performance requirement, then the performance of each of the parties would be taken into account in the respective renewal proceedings.

6. License Term

418. In the Order we have adopted today we established a 10-year license term for LMDS licenses. In this Fifth Notice of Proposed Rulemaking we are proposing that LMDS licensees should be eligible for a license renewal expectancy based upon the criteria established in Section 22.940(a) of the Commission's Rules.⁶²⁷

419. In the *Partitioning and Disaggregation Report and Order*, we found that allowing parties acquiring a partitioned license or disaggregated spectrum to "re-start" the license term from the date of the grant of the partial assignment application could allow parties to circumvent

⁶²⁵ See paras. 266-272, *supra*.

⁶²⁶ *Partitioning and Disaggregation Report and Order*, at paras. 61-63.

⁶²⁷ 47 CFR § 940(a).

our established license term rules and unnecessarily delay service.⁶²⁸ We seek comment as to whether our LMDS rules should similarly provide that parties obtaining partitioned LMDS licenses or disaggregated spectrum hold their license for the remainder of the original licensee's 10-year license term. In addition, we seek comment as to whether LMDS partitionees and disaggregatees should be afforded the same renewal expectancy as we have proposed for other LMDS licensees. We tentatively conclude that limiting the license term of the partitionee or disaggregatee is necessary to ensure that there is maximum incentive for parties to pursue available spectrum as quickly as practicable.

7. Competitive Bidding Issues

420. Competitive bidding issues similar to those in broadband PCS arise in the context of LMDS partitioning and disaggregation. Our competitive bidding rules for the LMDS service include provisions for installment payments and bidding credits for small businesses and businesses with average annual gross revenues not exceeding \$75 million. We also adopted rules to prevent unjust enrichment by such entities that seek to transfer licenses obtained through use of one of these special benefits.

421. We tentatively conclude that LMDS partitionees and disaggregatees that would qualify for installment payments should be permitted to pay their *pro rata* share of the remaining Government obligation through installment payments. We seek comment on this tentative conclusion. We further invite comment as to the exact mechanisms for apportioning the remaining Government obligation between the parties and whether there are any unique circumstances that would make devising such a scheme for LMDS more difficult than for broadband PCS. Since LMDS service areas are allotted on a geographic basis, in a manner similar to broadband PCS, we propose using population as the objective measure to calculate the relative value of the partitioned area and amount of spectrum disaggregated as the objective measure for disaggregation, and we seek comment on this proposal.

422. We seek comment regarding whether to apply unjust enrichment rules to small business LMDS licensees, or LMDS licensees with average annual gross revenues not exceeding \$75 million, that partition or disaggregate to larger businesses. Commenters should address how to calculate unjust enrichment payments for LMDS licensees paying through installment payments and those that were awarded bidding credits that partition or disaggregate to larger businesses. Commenters should address whether the unjust enrichment payments should be calculated on a proportional basis, using population of the partitioned area and amount of spectrum disaggregated as the objective measures. We propose using methods similar to those adopted for broadband

⁶²⁸ *Partitioning and Disaggregation Report and Order*, at para. 77.

PCS for calculating the amount of the unjust enrichment payments that must be paid in such circumstances, and we seek comment on this proposal.⁶²⁹

8. Licensing Issues

423. We propose that all LMDS licensees who are parties to disaggregation or partitioning arrangements must comply with our technical and service rules established in the Order we are adopting today. We also propose that coordination and negotiation among licensees must be maintained and applied in licensing involving disaggregated or partitioned licenses.

424. We propose to treat the disaggregation and partitioning of LMDS licenses to be types of assignments requiring prior approval by the Commission. We therefore propose to follow existing assignment procedures for disaggregation and partitioning.⁶³⁰ Under this proposal, the licensee must file FCC Form 702 signed by both the licensee and qualifying entity. The qualifying entity would also be required to file an FCC Form 430 unless a current FCC Form 430 is already on file with the Commission.

V. PROCEDURAL MATTERS

A. Regulatory Flexibility Analyses

425. The Initial Regulatory Flexibility Analysis, as required by Section 603 of the Regulatory Flexibility Act,⁶³¹ is set forth in Appendix C. The Commission has prepared the Initial Regulatory Flexibility Analysis of the expected impact on small entities of the proposals suggested in the Fifth Notice of Proposed Rulemaking. Written public comments are requested on the Initial Regulatory Flexibility Analysis. In order to fulfill the mandate of the Contract with America Advancement Act of 1996 regarding the Final Regulatory Flexibility Analysis, we ask a number of questions in our Initial Regulatory Flexibility Analysis regarding the prevalence of small businesses in the local exchange and MVPD industries.

426. Comments on the Initial Regulatory Flexibility Analysis must be filed in accordance with the same filing deadlines as comments on the Fifth Notice of Proposed Rulemaking, but they must have a separate and distinct heading designating them as responses to the Initial Regulatory Flexibility Analysis. The Secretary shall send a copy of the Fifth Notice of Proposed Rulemaking, including the Initial Regulatory Flexibility Analysis, to the Chief Counsel for Advocacy of the

⁶²⁹ See *id.* at paras. 34-35.

⁶³⁰ See 47 CFR § 101.56.

⁶³¹ 5 U.S.C. § 603.

Small Business Administration in accordance with Section 603(a) of the Regulatory Flexibility Act.⁶³²

427. The Final Regulatory Flexibility Analysis, as required by Section 604 of the Regulatory Flexibility Act,⁶³³ is set forth in Appendix D.

B. Paperwork Reduction Analyses

428. The Second Report and Order imposes new or modified information collection requirements applicable to the public. The Fifth Notice of Proposed Rulemaking contains proposed information collection requirements applicable to the public. As part of our continuing effort to reduce paperwork burdens, we invite the general public to take this opportunity to comment on the information collections contained in the Second Report and Order and the Fifth Notice of Proposed Rulemaking, as required by the Paperwork Reduction Act of 1995.⁶³⁴

429. Public and agency comments regarding the information collections contained in the Fifth Notice of Proposed Rulemaking are due on or before 60 days after the publication of the Fifth Notice of Proposed Rulemaking in the Federal Register.

430. Written comments by the public on the new or modified information collections contained in the Second Report and Order are due on or before 30 days after publication of the Second Report and Order in the Federal Register. Written comments must be submitted by OMB on the proposed or modified information collections on or before 60 days after publication of the Second Report and Order in the Federal Register.

431. Comments submitted in accordance with paragraph 429 or 430, *supra*, should address:

- Whether the collection of information is necessary for the proper performance of the functions of the Commission, including whether the information shall have practical utility.
- The accuracy of the Commission's burden estimates.
- Ways to enhance the quality, utility, and clarity of the information collected.

⁶³² 5 U.S.C. § 603(a).

⁶³³ 5 U.S.C. § 604.

⁶³⁴ Pub. L. No. 104-13.

- Ways to minimize the burden of the collection of information on the respondents, including the use of automated collection techniques or other forms of information technology.

432. In addition to filing the comments specified in paragraph 429, *supra*, with the Secretary, a copy of any such comments on the information collections contained herein should be submitted to Dorothy Conway, Federal Communications Commission, Room 234, 1919 M Street, N.W., Washington, D.C. 20554, or via the Internet to dconway@fcc.gov. In addition to filing the comments specified in paragraph 430, *supra*, with the Secretary, a copy of any such comments on the information collections contained herein should be submitted to Dorothy Conway, and to Timothy Fain, OMB Desk Officer, 10236 NEOB, 725 - 17th Street, N.W., Washington, D.C. 20503 or via the Internet at fain_t@al.eop.gov. For additional information regarding the information collections contained herein, contact Dorothy Conway.

C. Ex Parte Presentations

433. The Fifth Notice of Proposed Rulemaking is a non-restricted notice and comment rulemaking proceeding. *Ex parte* presentations are permitted, provided they are disclosed as provided in Commission rules. *See generally* Sections 1.1202, 1.1203, and 1.1206(a) of the Commission's Rules.⁶³⁵

D. Pleading Dates

434. Pursuant to applicable procedures set forth in Sections 1.1415 and 1.419 of the Commission's Rules,⁶³⁶ interested parties may file comments to the Fifth Notice of Proposed Rulemaking on or before April 21, 1997, and reply comments on or before May 6, 1997. All relevant and timely comments will be considered by the Commission before final action is taken in this proceeding. To file formally in this proceeding, participants must file an original and five copies of all comments, reply comments, and supporting comments. If participants want each Commissioner to receive a personal copy of their comments, an original and nine copies must be filed. Comments and reply comments should be sent to Office of the Secretary, Federal Communications Commission, Washington, D.C. 20554. Comments and reply comments will be available for public inspection during regular business hours in the FCC Reference Center (Room 239) of the Federal Communications Commission, 1919 M Street, N.W., Washington, D.C. 20554.

E. Further Information

⁶³⁵ 47 CFR §§ 1.1202, 1.1203, 1.1206(a).

⁶³⁶ 47 CFR §§ 1.1415, 1.419.

435. For further information concerning this rulemaking proceeding contact Bob James, Private Wireless Division, at (202) 418-0680, Mark Bollinger or Jay Whaley, Auctions Division, at (202) 418-0660, Auctions Division, or Joseph Levin or Jane Phillips, Policy Division, at (202) 418-1310, Wireless Telecommunications Bureau, Federal Communications Commission, Washington, D.C. 20554.

VI. ORDERING CLAUSES

436. IT IS ORDERED that the actions of the Commission herein ARE TAKEN pursuant to Sections 4(i), 257, 303(r), and 309(j) of the Communications Act of 1934, 47 U.S.C. §§ 154(i), 257, 303(r), 309(j).

437. IT IS FURTHER ORDERED that the Commission's Rules ARE AMENDED as set forth in Appendix A, effective 60 days after publication of this Order in the Federal Register.

438. IT IS FURTHER ORDERED that the Petitions for Reconsideration of the Memorandum Opinion and Order in Application of Hye Crest Management, Inc., for License Authorization in the Point-to-Point Microwave Radio Service in 27.5-29.5 GHz Band and Request for Waiver of the Rules, File No. 10380-CF-P-88, filed by the University of Texas-Pan American, RioVision of Texas, Inc., the City of Gustine, California, Video/Phone Systems, Inc., Northeast Wireless, High Band Broadcasting Corporation, FM Video Broadcasters, Western Sierra Bancorp, M3 Illinois Telecommunications Corporation, Perry W. Haddon as President of GHz Equipment Company; Connecticut Home Theater Corporation, Alliance Associates, Stevan A. Birnbaum, BMW Associates, Joseph B. Buchwald, Celltel Communications Corporation, Linda Chester, Thomas F. Clark, the Committee to Promote Competition in the Cable Industry, Arnold Cornblatt, CT Communications Corporation, Evanston Transmission Company, Judy Feinberg, Lawrence Fraiberg, Freedom Technologies, Inc., Rosalie Y. Goldberg, Harry A. Hall, Lloyd Hascoe, L.D.H. International, Inc., Paul R. Likins, William Lonergan, Herbert S. Meeker, James L. Melcher, Frederick Myers, Frederick M. Peyser, PMJ Securities, Inc., Robert E. La Blanc Associates, Inc., Jeanne P. Robertson, Sanford Robertson, Robert Rosenkranz, R&R Telecommunications Partners, SCNY Communications, Inc., Seaview Telesystems Partners, Lewis W. Siegel, Michael S. Siegel, Kim Sloan, SMC Associates, Charles D. Snelling, Telecom Investment Corp., Telecommunications/Haddock Investors, Video Communications Corporation, Diane Wechsler, and Ivan Wolff ARE DENIED.

439. IT IS FURTHER ORDERED that Local Multipoint Distribution Service licensees SHALL ATTACH appropriate labels to every subscriber transceiver antenna and provide notice to users regarding the potential hazard of remaining within the Maximum Permissible Exposure separation distance of these high gain antennas, as indicated herein.

440. IT IS FURTHER ORDERED, that, effective upon adoption of this Order, applications WILL NOT BE ACCEPTED for filing under Part 101 of the Commission's Rules either for new services or for license modifications in the 31 GHz band, except those filed by incumbent city licensees and private business users pursuant to the terms of this Order, and that all such applications for license modifications SHALL BE FILED no later than 15 days following the effective date of this Order.

441. IT IS FURTHER ORDERED that the applications filed for authorization to operate under the existing licensing rules for the 31,000-33,000 MHz band and pending review under the existing rules SHALL BE DISMISSED, and applicants that submitted filing fees with the applications SHALL BE REFUNDED.

442. IT IS FURTHER ORDERED that, pursuant to Section 1.402(h) of the Commission's Rules,⁶³⁷ the Chief, Office of Engineering and Technology, SHALL SELECT a panel of experts to review the specific technologies set forth in the pioneer preference request that was filed by the Suite 12 Group, on September 23, 1991, as amended on November 19, 1991, and that was accepted and placed on Public Notice on December 16, 1991.⁶³⁸

443. IT IS FURTHER ORDERED that, pursuant to Section 5(c) of the Communications Act of 1934,⁶³⁹ the Chief, Wireless Telecommunications Bureau, IS GRANTED DELEGATED AUTHORITY to implement and modify auction procedures in the Local Multipoint Distribution Service, including the general design and timing of the auction; the number and grouping of authorizations to be offered in a particular auction; the manner of submitting bids; the amount of bid increments; activity and stopping rules; and application and payment requirements, including the amount of upfront payments; and to announce such procedures by Public Notice.

FEDERAL COMMUNICATIONS COMMISSION

William F. Caton
Acting Secretary

⁶³⁷ 47 CFR § 1.402(h).

⁶³⁸ Suite 12 Group, Petition, RM 7872, PP-22, Public Notice, Report No. 21049, released Dec. 16, 1991; *see First NPRM*, 8 FCC Rcd at 565 (para. 56).

⁶³⁹ 47 U.S.C. § 155(c).

APPENDIX A

Final Rules

Part 1 of Title 47 of the Code of Federal Regulations is amended as follows:

Part 1 - PRACTICE AND PROCEDURE

1. The authority citation for Part 1 continues to read as follows:

AUTHORITY: 47 U.S.C. §§ 151, 154, 303 and 309(j), unless otherwise noted.

2. Section 1.1307 is amended by adding a new entry at the end of Table 1 in paragraph (b)(1) as follows:

§ 1.1307 Actions which may have a significant environmental effect, for which Environmental Assessments (EAs) must be prepared.

* * * * *

TRANSMITTERS, FACILITIES, AND OPERATIONS SUBJECT TO
ROUTINE ENVIRONMENTAL EVALUATION

Service (Title 47 CFR Rule Part)	Evaluation required if:
* * *	* * *
Local Multipoint Distribution Service (subpart L of part 101)	<p><u>Non-rooftop antennas:</u> Height above ground level to radiation center < 10 m and power > 1640 W EIRP</p> <p><u>Rooftop antennas:</u> Power > 1640 W EIRP</p> <p>LMDS licensees are required to attach a label to subscriber transceiver antennas that (1) provides adequate notice regarding potential radio frequency safety hazards, <i>e.g.</i>, information regarding the safe minimum separation distance required between users and transceiver antennas; and (2) references the applicable FCC radio frequency emission guidelines contained in FCC OST Bulletin 65, 2d Edition.</p>

Subpart Q or Part 1 of Subchapter A of Chapter I of Title 47 of the Code of Federal Regulations is amended as follows:

PART 1 - PRACTICE AND PROCEDURE

3. Section 1.77 is amended by revising paragraph (i) to read as follows:

§ 1.77 Detailed application procedures, cross references

* * * * *

(i) Rules governing applications for authorizations in the Common Carrier and Private Radio terrestrial microwave services and Local Multipoint Distribution Services are set out in Part 101.

4. Section 1.2102 is amended by adding paragraph (a)(9) as follows:

§ 1.2102 Eligibility of applications for competitive bidding.

(a) * * *

(9) Local Multipoint Distribution Service (LMDS) (see 47 CFR Part 101).

Part 2 of Chapter I of Title 47 of the Code of Federal Regulations is amended as follows:

5. Section 2.106 is amended by revising Column 6 for the entries 27.5-29.5 GHz and 31.0-31.3 GHz to read as follows:

§ 2.106 Table of Frequency Allocations.

International table		United States table		FCC use designators	
Region 1 -- allocation GHz	Region 2 -- allocation GHz	Government	Non-Government	Rule part(s)	Special-use frequencies
(1)	(2)	Allocation GHz (4)	Allocation GHz (5)	(6)	(7)
*	*	*	*	*	*
27.5-29.5	27.5-29.5 FIXED SATELLITE (Earth-to-space) MOBILE	27.5-29.5	27.5-29.5 FIXED FIXED-SATELLITE (Earth-to-space) MOBILE	SATELLITE COMMUNICATIONS (25) FIXED MICRO-WAVE (101)	
*	*	*	*	*	*
31.0-31.3	31.0-31.3 FIXED MOBILE Standard Frequency and Time Signal-Satellite (space-to-Earth) Space Research	31.0-31.3 Standard Frequency and Time Signal-Satellite (space-to-Earth)	31.0-31.3 FIXED MOBILE Standard Frequency and Time Signal-Satellite (space-to-Earth)	FIXED MICRO-WAVE (101)	
*	*	*	*	*	*

Part 74 of Chapter I of Title 47 of the Code of Federal Regulations is amended as follows:

6. In § 74.602, paragraph (h) is removed and paragraphs (i) and (j) are redesignated as paragraphs (h) and (i).

Part 78 of Chapter I of Title 47 of the Code of Federal Regulations is amended as follows:

7. In § 78.18, paragraph (a)(5) is removed and paragraphs (a)(6) through (a)(8) are renumbered as paragraphs (a)(5) through (a)(7).

Part 95 of Chapter I of Title 47 of the Code of Federal Regulations is amended as follows:

8. In § 95.1, paragraph (b) is removed and paragraph (c) is redesignated as (b).

Part 101 of Chapter I of Title 47 of the Code of Federal Regulations is amended as follows:

PART 101 - FIXED MICROWAVE SERVICE

9. The authority citation for Part 101 continues to read as follows:

AUTHORITY: 47 U.S.C. §§ 154, 303, 309(j), unless otherwise noted.

10. Section 101.1 is amended by revising paragraph (a) to read as follows:

§ 101.1 Scope and authority.

(a) The purpose of the rules in this part is to prescribe the manner in which portions of the radio spectrum may be made available for private operational, common carrier, and Local Multipoint Distribution Service fixed, microwave operations that require transmitting facilities on land or in specified offshore coastal areas within the continental shelf.

* * * * *

11. Section 101.3 is amended by revising the two paragraphs in alphabetical order to read as follows:

* * * * *

Local Multipoint Distribution Service Hub Station. A fixed point-to-point or point-to-multipoint radio station in a Local Multipoint Distribution Service System that provides one-way or two-way communication with Local Multipoint Distribution Service Subscriber Stations.

* * * * *

Local Multipoint Distribution Service System. A fixed point-to-point or point-to-multipoint radio system consisting of Local Multipoint Distribution Service Hub Stations and their associated Local Multipoint Distribution Service Subscriber Stations.

* * * * *

12. Section 101.5 is amended by revising paragraph (d) to read as follows:

§ 101.5 Station authorization required.

* * * * *

(d) For stations authorized under Subpart H (Private Operational Fixed Point-to-Point Microwave Service), Subpart I (Common Carrier Fixed Point-to-Point Microwave Service), and Subpart L (Local Multipoint Distribution Service), construction of new or modified stations may be initiated prior to grant of an authorization. As a condition to commencing construction under this subparagraph (d), the Commission may, at any time and without hearing or notice, prohibit such construction for any reason. Any construction conducted hereunder is at the applicant's sole risk.

13. Section 101.11 is amended by revising paragraph (a) to read as follows:

§ 101.11 Filing of applications, fees, and number of copies.

(a) Part 1 of this chapter contains information on application filing procedures and requirements for all services authorized under this part. All filings, unless they are filed electronically, must include the original application plus one copy. Instructions for electronic filing will be provided by public notice.

14. Section 101.15 is amended by revising paragraph (a) to read as follows:

§ 101.15 Application forms for common carrier fixed stations.

(a) *New or modified facilities* Except for Local Multipoint Distribution Service in Subpart L, FCC Form 415 must be submitted and a license granted for each station. FCC Form 415 also must be submitted to amend any license application, to modify any license pursuant to §§ 101.57(a) and 101.59, and to notify the Commission of modifications made pursuant to § 101.61. Cancellation of a license may be made by letter.

* * * * *

15. Section 101.19 is amended by revising paragraph (a)(5) to read as follows:

§ 101.19 General application requirements.

* * * * *

(a) * * *

* * * * *

(5) Show compliance with the special requirements applicable to each radio service and make all special showings that may be applicable (*e.g.*, those required by §§ 101.103(d), 101.701, 101.1001-101.1015, *etc.*).

* * * * *

16. Section 101.21 is amended by revising the introduction and adding paragraph (g) as follows:

§ 101.21 Technical content of applications

Applications, except FCC Form 175, must contain all technical information required by the application form and any additional information necessary to fully describe the proposed facilities and to demonstrate compliance with all technical requirements of the rules governing the radio service involved (see Subparts C, F, G, I, J, and L, as appropriate). The following paragraphs describe a number of technical requirements.

* * * * *

(g) Each application in the Local Multipoint Distribution Service must contain all technical information required by FCC Form 600 and any other applicable form or associated Public Notices and by any applicable rules in this part and Subpart L.

17. Section 101.29 is amended by revising paragraph (a) to read as follows:

§ 101.29 Amendment of pending applications.

(a) Any pending application may be amended as a matter of right if the application has not been designated for hearing, or for comparative evaluation pursuant to § 101.51, or for the

random selection process, or is not subject to the competitive bidding process, provided, however, that the amendments must comply with the provisions of § 101.41 as appropriate.

* * * * *

18. Section 101.35 is amended by adding paragraph (e) as follows:

§ 101.35 Preliminary processing of applications.

* * * * *

(e) Competitive bidding applications will be processed pursuant to part 1, subpart Q, of this chapter and subpart M of this part.

19. Section 101.37 is amended by revising paragraph (a) and adding paragraph (e) to read as follows:

§ 101.37 Public notice period.

(a) At regular intervals, the Commission will issue a public notice listing:

(1) The acceptance for filing of common carrier applications, Local Multipoint Distribution Service applications, and major amendments thereto;

(2) Significant Commission actions concerning these applications;

(3) The receipt of common carrier applications and Local Multipoint Distribution Service applications for minor modifications made pursuant to § 101.59;

(4) Information which the Commission in its discretion believes of public significance; and

(5) special environmental considerations as required by Part 1 of this chapter.

* * * * *

(e) Paragraphs (a) through (c) of this section shall not apply to FCC Form 175.

20. Section 101.45 is amended to revise the introduction to paragraph (b) as follows:

* * * * *

(b) A common carrier application, except in the Local Multipoint Distribution Service, will be entitled to be included in a random selection process or to comparative consideration with one or more conflicting applications only if:

* * * * *

21. Section 101.47 is amended by revising the introduction of paragraph (f) to read as follows:

§ 101.47 Consideration of applications.

* * * * *

(f) Except with respect to applications subject to Subpart L of this part, whenever the public interest would be served thereby, the Commission may grant one or more mutually exclusive applications expressly conditioned upon final action on the applications, and then either conduct a random selection process (in specified services under this rule part), designate all of the mutually exclusive applications for a formal evidentiary hearing or (whenever so requested) follow the comparative evaluation procedures of § 101.51, as appropriate, if it appears:

22. Section 101.57 is amended by revising paragraph (a) to read as follows:

§ 101.57 Modification of station license.

(a)(1) Except as provided in § 101.59, and except in the case of licenses authorized for operation in the 31,000-31,300 MHz band prior to March 11, 1997, and except in the Local Multipoint Distribution Service as provided in § 101.61(c)(10), no modification of a license issued pursuant to this part (or the facilities described thereunder) may be made except upon application to the Commission.

(2) Notwithstanding the provisions of subparagraph (1) of this paragraph, licensees (other than licensees in the Local Television Transmission Service) authorized to operate in the 31,000-31,300 MHz band prior to March 11, 1997, may submit applications to the Commission for modification of such licenses not later than the end of the 15-day period following [the effective date of this rule].

23. Section 101.59 is amended by revising paragraphs (a) and (b)(1) to read as follows:

§ 101.59 Processing of applications for facility minor modifications.

(a) Except in the Local Multipoint Distribution Service as provided in § 101.61(c)(10), unless an applicant is notified to the contrary by the Commission, as of the twenty-first day

following the date of public notice, any application that meets the requirements of paragraph (b) of this section and proposes only the change specified in paragraph (c) of this section will be deemed to have been authorized by the Commission.

(b) An application may be considered under the procedures of this section only if:

(1) It is in the Private Operational Fixed Point-to-Point Microwave, Common Carrier Fixed Point-to-Point Microwave, Local Television Transmission, Digital Electronic Message Services, and Local Multipoint Distribution Services;

* * * * *

24. Section 101.61 is amended by revising paragraph (b)(3), adding paragraphs (c)(9) and (10), and revising paragraph (d) to read as follows:

§ 101.61 Certain modifications not requiring prior authorization.

* * * * *

(b) Licensees of fixed stations in the Private Operational Fixed Point-to-Point Microwave, Common Carrier Fixed Point-to-Point Microwave, Local Television Transmission, Digital Electronic Message Services, and Local Multipoint Distribution Services may make the facility changes listed in paragraph (c) of this section without obtaining prior Commission authorization, if:

* * * * *

(3) The Commission is notified of changes made to facilities by the submission of a completed FCC Form 415 within 30 days after the changes are made, except that licensees in the Local Multipoint Distribution Service must notify the Commission by the submission of a completed FCC Form 600 within 30 days or, if the change is subject to § 101.305(b) or 101.305(c), within the time periods required in those subparts.

* * * * *

(c) * * *

(9) In the Local Multipoint Distribution Service, changes in regulatory status from common carrier to non-common carrier status or non-common carrier to common carrier status, or from the addition of common carrier or non-common carrier status to an existing license in order to be authorized to provide both common carrier and non-common carrier services; except that changes

that result in the discontinuance, reduction, or impairment of the existing service are subject to the requirements of § 101.305(b) and (c).

(10) In the Local Multipoint Distribution Service, the addition, removal, or relocation of facilities within the area authorized by the license, except as provided in § 101.1009.

(d) Licensees may notify the Commission of permissible changes or correct erroneous information on a license not involving a major change (*i.e.*, a change that would be classified as a major amendment as defined by § 101.29) without obtaining prior commission approval by filing FCC Form 415, except in Local Multipoint Distribution Service by filing FCC Form 600.

25. Section 101.63 is amended by revising paragraph (a) to read as follows:

§ 101.63 Period of construction; certification of completion of construction.

(a) Each station, except in the Local Multipoint Distribution Services, authorized under this part must be in operation within 18 months from the initial date of grant. Modification of an operational station must be completed within 18 months of the date of grant of the applicable modification request.

* * * * *

26. Section 101.101 is amended by revising the table entries for the 27,500-29,500 MHz and 31,000-31,300 MHz bands and by adding below the table a line for LMDS in alphabetical order to read as follows:

§ 101.101 Frequency availability.

FREQUENCY BAND (MHz)	RADIO SERVICE				NOTES
	COMMON CARRIER (Part 101)	PRIVATE RADIO (Part 101)	BROADCAST AUXILIARY (Part 74)	OTHER (Parts 15, 21, 24, 25, 74, 78 & 100)	
27,500-28,350	LMDS				
29,100-29,250	LMDS			SAT	
31,000-31,300	CC LMDS LTTS	OFS			F/M/TF

* * * * *

ITFS: Instructional Television Fixed Service -- (Part 74)

LMDS: Local Multipoint Distribution Service (including non-common carrier and common carrier services) -- (Part 101, Subpart L)

LTTS: Local Television Transmission Service -- (Part 101, Subpart J)

* * * * *

27. Section 101.103 is amended by revising paragraph (b) and adding new paragraphs (g) and (h) to read as follows:

§ 101.103 Frequency coordination procedures.

* * * * *

(b)(1) Operations in the bands 31,000-31,075 MHz and 31,225-31,300 MHz licensed prior to March 11, 1997, were licensed on an unprotected basis and are subject to harmful interference from similarly licensed operations in that band.

(i) Operations licensed in the Local Multipoint Distribution Service and those operations licensed prior to March 11, 1997, except in the Local Television Transmission Service, operating in these bands are equally protected against harmful interference from each other.

(ii) In the case of operations licensed prior to March 11, 1997, except in the Local Television Transmission Service, that are licensed on a point-to-radius basis, LMDS licensees shall be subject to the protection requirement established in this section in the case of existing links operated by such licensees, and in the case of links added by such licensees in the future in accordance with the terms of their point-to-radius licenses.

(iii) An LMDS licensee may not initiate operations within the point-to-radius area licensed to an operator (other than an operator in the Local Television Transmission Service) prior to March 11, 1997, even if such operator has not initiated operations to the fullest extent of the license. An LMDS licensee, however, may initiate operations at the border of such operator's license area without prior coordination if the LMDS licensee's operations would not cause harmful interference to the other operator's existing operations.

(iv) An operator (other than an operator in the Local Television Transmission Service) licensed on a point-to-radius basis prior to March 11, 1997, may add additional stations within its license area. Such operator shall coordinate with any affected LMDS licensee if its new operations might cause harmful interference to the existing operations of such LMDS licensee.

(v) Operations licensed prior to March 11, 1997, on a point-to-point basis may not be extended or otherwise modified through the addition of point-to-point links. Such operations shall be limited to the use of frequency pairs licensed as of March 11, 1997. Operations licensed in the Local Television Transmission Service as of March 11, 1997, may continue to operate, but such operators may not expand existing operations nor initiate new operations.

(2) Operations in the 31,075-31,225 MHz band licensed prior to March 11, 1997, shall receive no protection against harmful interference from authorized operations in the Local Multipoint Distribution Service in that band.

* * * * *

(g) Licensees operating in Basic Trading Areas authorized in the Local Multipoint Distribution Service

(1) When the transmitting facilities in a Basic Trading Area (BTA) are to be operated in the bands 27,500-28,350 MHz; 29,100-29,250 MHz; and 31,000-31,300 MHz and the facilities are located within 20 kilometers of the boundaries of a BTA, each licensee must complete the frequency coordination process of subsection 101.103(d)(2) with respect to neighboring BTA licensees that may be affected by its operations prior to initiating service. In addition, all licensed transmitting facilities operating in the bands 31,000-31,075 MHz and 31,225-31,300 MHz and located within 20 kilometers of neighboring facilities must complete the frequency coordination process of § 101.103(d)(2) with respect to such authorized operations before initiating service.

(2) Response to notification should be made as quickly as possible, even if no technical problems are anticipated. Any response to notification indicating potential interference must specify the technical details and must be provided to the applicant, either electronically or in writing, within the 30-day notification period. Every reasonable effort should be made by all licensees to eliminate all problems and conflicts. If no response to notification is received within 30 days, the

licensee will be deemed to have made reasonable efforts to coordinate and commence operation without a response. The beginning of the 30-day period is determined pursuant to subsection 101.103(d)(v).

(h) *Special requirements for operations in the band 29,100-29,250 MHz*

(1)(i) Local Multipoint Distribution Service (LMDS) receive stations operating on frequencies in the 29,100-29,250 MHz band within a radius of 75 nautical miles of the geographic coordinates provided by a non-GSO-MSS licensee pursuant to §§ 101.113(c)(2) or (c)(3)(i) (the "feeder link earth station complex protection zone") shall accept any interference caused to them by such earth station complexes and shall not claim protection from such earth station complexes.

(i) LMDS licensees operating on frequencies in the 29,100-29,250 MHz band outside a feeder link earth station complex protection zone shall cooperate fully and make reasonable efforts to resolve technical problems with the non-GSO MSS licensee to the extent that transmissions from the non-GSO MSS operator's feeder link earth station complex interfere with an LMDS receive station.

(2) No more than 15 days after the release of a public notice announcing the commencement of LMDS auctions, feeder link earth station complexes to be licensed pursuant to § 25.257 of this chapter shall be specified by a set of geographic coordinates in accordance with the following requirements: no feeder link earth station complex may be located in the top eight (8) metropolitan statistical areas (MSAs), ranked by population, as defined by the Office of Management and Budget as of June 1993, using estimated populations as of December 1992; two (2) complexes may be located in MSAs 9 through 25, one of which must be Phoenix, AZ (for a complex at Chandler, AZ); two (2) complexes may be located in MSAs 26 to 50; three (3) complexes may be located in MSAs 51 to 100, one of which must be Honolulu, Hawaii (for a complex at Waimea); and the three (3) remaining complexes must be located at least 75 nautical miles from the borders of the 100 largest MSAs or in any MSA not included in the 100 largest MSAs. Any location allotted for one range of MSAs may be taken from an MSA below that range.

(3)(i) Any non-GSO MSS licensee may at any time specify sets of geographic coordinates for feeder link earth station complexes with each earth station contained therein to be located at least 75 nautical miles from the border of the 100 largest MSAs.

(ii) For purposes of subsection (h)(3)(i), non-GSO MSS feeder link earth station complexes shall be entitled to accommodation only if the affected non-GSO MSS licensee preapplies to the Commission for a feeder link earth station complex or certifies to the Commission within sixty days of receiving a copy of an LMDS application that it intends to file an application for a feeder link earth station complex within six months of the date of receipt of the LMDS application.

(iii) If said non-GSO MSS licensee application is filed later than six months after certification of the Commission, the LMDS and non-GSO MSS entities shall still cooperate fully and make reasonable efforts to resolve technical problems, but the LMDS licensee shall not be obligated to re-engineer its proposal or make changes to its system.

(4) LMDS licensees or applicants proposing to operate hub stations on frequencies in the 29,100-29,250 MHz band at locations outside of the 100 largest MSAs or within a distance of 150 nautical miles from a set of geographic coordinates specified under subsection (h)(2) of (h)(3)(i) shall serve copies of their applications on all non-GSO MSS applicants, permittees or licensees meeting the criteria specified in § 25.257(a). Non-GSO MSS licensees or applicants shall serve copies of their feeder link earth station applications, after the LMDS auction, on any LMDS applicant or licensee within a distance of 150 nautical miles from the geographic coordinates that it specified under §§ 101.113(c)(2) or (c)(3)(i). Any necessary coordination shall commence upon notification by the party receiving an application to the party who filed the application. The results of any such coordination shall be reported to the Commission within sixty days. The non-GSO MSS earth station licensee shall also provide all such LMDS licensees with a copy of its channel plan.

28. Section 101.107 is amended by revising the Table entry for the frequency band 19,700 to 40,000 MHz line and adding a footnote in sequence to reads as follows:

§ 101.107 Frequency tolerance.

* * * * *

Frequency (MHz)	FREQUENCY TOLERANCE (PERCENT)		
	All fixed and Base stations	Mobile stations Over 3 Watts	Mobile stations 3 Watts or less
19,700 to 27,500 (6)	0.03		
27,500 to 28,350	0.001		
29,100 to 29,250	0.001		
31,000 to 31,075 (8)	0.001		
31,075 to 31,225 (8)	0.001		
31,225 to 31,300 (8)	0.001		
31,300 to 40,000 (6)	0.03		

* * * * *

(8) For stations authorized prior to March 11, 1997, transmitter frequency tolerance shall not exceed 0.03 per cent.

29. Section 101.109 is amended by revising paragraph (c) by removing the Table entry on the lines 27,500 MHz to 29,500 MHz and 31,000 to 31,300 MHz line and adding lines to the Table to read as follows:

§ 101.109 Bandwidth.

* * * * *

(c) * * *

Frequency Band (MHz)	Maximum Authorized Bandwidth
21,200 to 23,600	100 MHz /4/
27,500 to 28,350	850 MHz
29,100 to 29,250	150 MHz
31,100 to 31,075	75 MHz
31,075 to 31,225	150 MHz
31,225 to 31,300	75 MHz

* * * * *

30. Section 101.113 is amended by revising paragraph (a) by removing the Table entry on the line 27,500 to 29,500 MHz frequency band and the line 31,000 to 31,300 MHz frequency band, adding lines in sequence to the Table, revising footnote (7), and adding footnotes (8) and (9) in sequence to read as follows:

§ 101.113 Transmitter power limitations.

(a) * * *

Frequency Band (MHz)	Maximum allowable EIRP (1)*	
	Fixed (dBW)	Mobile (dBW)
27,500 to 28,350 ⁽⁹⁾	+ 30 dBW/MHz	
29,100 to 29,250	⁽⁷⁾	
31,000 to 31,075 ^{(8), (9)}	30 dBW/MHz	30 dBW/MHz
31,075 to 31,225 ^{(8), (9)}	30 dBW/MHz	30 dBW/MHz
31,225 to 31,300 ^{(8), (9)}	30 dBW/MHz	30 dBW/MHz

* * * * *

⁽⁷⁾ See § 101.113(c).

⁽⁸⁾ For stations authorized prior to March 11, 1997, transmitter output power shall not exceed 0.05 watt.

⁽⁹⁾ For subscriber transceivers authorized in these bands, the EIRP shall not exceed 55dBW or 42 dBW/MHz.

* * * * *

31. Section 101.147 is amended by revising the introductory statement in paragraph (a), revising the list of frequencies in paragraph (a) by removing the line 27,500-29,500 MHz and the line 31,000-31,300 MHz and adding lines in sequence, revising the footnote /16/ in paragraph (a), removing paragraph (x), redesignating paragraphs (t) through (w) as paragraphs (u) through (x), adding a new paragraph (t), and revising paragraph (u), as follows:

§ 101.147 Frequency assignments

(a) Frequencies in the following bands are available for assignment for fixed microwave services.

* * * * *

27,500-28,350 MHz¹⁶
 29,100-29,250 MHz^{5, 16}
 31,000-31,300 MHz¹⁶

* * * * *

¹⁶ As of [the effective date of this rule], frequencies in these bands are available for assignment only to LMDS radio stations. Stations initially authorized prior to that date may continue to operate within the existing terms of the outstanding licenses.

* * * * *

(t) 27,500-28,350; 29,100-29,250; 31,000-31,300 MHz. These frequencies are available for LMDS systems. Each assignment will be made on a BTA service area basis, and the assigned spectrum may be subdivided as desired by the licensee.

(u) 31,000-31,300 MHz. Stations licensed in this band prior to March 11, 1997, may continue their authorized operations, subject to license renewal, on the condition that harmful interference will not be caused to LMDS operations licensed in this band after [the effective date of this rule]. In the sub-bands 31,000-31,075 and 31,225-31,300 MHz, stations initially licensed prior to March 11, 1997, except in LTTS, and LMDS operations authorized after [the effective date of this rule], are equally protected against harmful interference from each other in accordance with the provisions of § 101.103(b). For stations, except in LTTS, permitted to relocate to these sub-bands, the following paired frequencies are available:

(1) 25 MHz authorized bandwidth channels

TRANSMIT (receive) (MHz)	RECEIVE (transmit) (MHz)
31,012.5	31,237.5
31,037.5	31,262.5
31,062.5	31,287.5

(2) 75 MHz authorized bandwidth channel

TRANSMIT (receive) (MHz)	RECEIVE (transmit) (MHz)
31,037.5	31,275.0

* * * * *

32. Section 101.305 is amended by revising paragraphs (a) through (c) to read as follows:

§ 101.305 Discontinuance, reduction, or impairment of service.

(a) If the public communication service provided by a station in the Common Carrier Radio Services and the Local Multipoint Distribution Service is involuntarily discontinued, reduced or impaired for a period exceeding 48 hours, the station licensee must promptly notify the Commission, in writing, at Federal Communications Commission, Common Carrier Radio Services, 1270 Fairfield Road, Gettysburg, Pennsylvania 17325. In every such case, the licensee must furnish full particulars as to the reasons for such discontinuance, reduction or impairment of service, including a statement as to when normal service is expected to be resumed. When normal service is resumed, prompt notification thereof must be given in writing to the Federal Communications Commission, Common Carrier Radio Services, 1270 Fairfield Road, Gettysburg, Pennsylvania, 17325.

(b) No station licensee subject to title II of the Communications Act of 1934, as amended, may voluntarily discontinue, reduce or impair public communication service to a community or part of a community without obtaining prior authorization from the Commission pursuant to the procedures set forth in part 63 of this chapter. In the event that permanent discontinuance of service is authorized by the Commission, the station licensee must promptly send the station license to the Federal Communications Commission, Common Carrier Radio Services, 1270 Fairfield Road, Gettysburg, Pennsylvania 17325 for cancellation; except that station licensees in the Local Multipoint Distribution Service need not surrender the license for cancellation if the discontinuance is a result of a change of status by the licensee from common carrier to non-common carrier pursuant to § 101.61.

(c) Any licensee not subject to title II of the Communications Act of 1934, as amended, who voluntarily discontinues, reduces or impairs public communication service to a community or a part of a community must give written notification to the Commission within 7 days thereof. In the event of permanent discontinuance of service, the station licensee must promptly send the station license to the Federal Communications Commission, Common Carrier Radio Services, 1270 Fairfield Road, Gettysburg, Pennsylvania 17325 for cancellation; except that station licensees in the Local Multipoint Distribution Service need not surrender the license for cancellation if the discontinuance is a result of a change of status by the licensee from non-common carrier to common carrier pursuant to § 101.61.

* * * * *

33. Section 101.311 is revised to read as follows:

§ 101.311 Equal employment opportunities.

Equal opportunities in employment must be afforded by all common carrier licensees and all Local Multipoint Distribution Service licensees in accordance with the provisions of § 21.307.

* * * * *

34. Section 101.803 is amended by revising note (7) of paragraph (a), revising note (9) of paragraph (d), and removing paragraph (e) to read as follows:

§ 101.803 Frequencies.

(a) * * *

- ⁽⁷⁾ As of [the effective date of this rule], frequencies in these band only are available for assignment to LMDS radio stations. Stations authorized prior to that date may continue to operate within the existing terms of the outstanding licenses, subject to renewal.

* * * * *

(d) * * *

- ⁽⁹⁾ As of [the effective date of this rule], frequencies in these band only are available for assignment to LMDS radio stations. Stations authorized prior to that date may continue to operate within the existing terms of the outstanding licenses, subject to renewal.

35. A new Subpart L is to be added, as follows:

Subpart L - Local Multipoint Distribution Service

Sec.

101.1001 Eligibility

101.1003 LMDS eligibility restrictions for incumbent LECs and cable companies.

101.1005 Frequencies available.

101.1007 Geographic service areas and number of licenses.

101.1009 System operations

101.1011 Construction requirements and criteria for renewal expectancy.

101.1013 Permissible communications services.

101.1015 Application form and contents.

101.1017 Requesting regulatory status.

§ 101.1001 Eligibility.

Any entity, other than one precluded by § 101.7 and by § 101.1003 of this part, is eligible for authorization to provide Local Multipoint Distribution Service (LMDS) under this subpart. Authorization will be granted upon proper application filed under the rules in this part and this subpart.

§ 101.1003 LMDS eligibility restrictions for incumbent LECs and cable companies.

(a) *Eligibility for LMDS license.* Except as provided in paragraph (b) of this section, no incumbent LEC or incumbent cable company, as defined in paragraph (c) of this section, nor any entity owning an attributable interest in an incumbent LEC or incumbent cable company, shall have an attributable interest in an LMDS license whose geographic service area significantly overlaps such incumbent's authorized or franchised service area.

(1) *Termination of restriction.* This restriction shall terminate three years following [the effective date of this rule] unless the Commission extends its applicability based on a determination that incumbent LECs or incumbent cable companies continue to have substantial market power in the provision of local telephony or cable television services.

(2) *Waiver of restriction.* Upon completion of the initial award of LMDS licenses, an incumbent LEC or incumbent cable company may petition for a waiver of the restriction on eligibility based upon a showing that the petitioner no longer has market power in its authorized or franchised service area as the result of the entry of new competitors, other than an LMDS licensee, into such service area.

(b) *Exception to eligibility restriction.* The restriction set forth in paragraph (a) of this section shall not apply to any license for the 31,000-31,075 megahertz and 31,225-31,300 megahertz bands of LMDS spectrum.

(c) *Incumbent LECs and cable companies defined.* The terms incumbent LEC and incumbent cable company shall be defined as follows:

(1) *Incumbent LEC.* The term incumbent local exchange carrier or incumbent LEC shall be defined, in accordance with § 251(h) of the Communications Act, to mean, with respect to an area, that:

(A) On February 8, 1996, the LEC provided telephone exchange service in such area and was deemed to be a member of the exchange carrier association pursuant to § 69.601(b) of this chapter; or

(B) Is a person or entity that, on or after February 8, 1996, became a successor or assign of a member described in paragraph (c)(1)(A) of this section; or

(C) Is an entity, or a member of a class or category of entities, that the Commission has determined under § 251(h)(2) of the Communications Act to treat as a local exchange carrier.

(2) *Incumbent Cable Company.* The term incumbent cable company means a company that is franchised to provide cable service and is not subject to effective competition under the following definition of effective competition in § 623(l) of the Communications Act:

(A) Fewer than 30 percent of the households in the franchise area subscribe to the cable service of a cable system; or

(B) The franchise area is:

(i) Served by at least two unaffiliated multichannel video programming distributors each of which offers comparable video programming to at least 50 percent of the households in the franchise area; and

(ii) The number of households subscribing to programming services offered by multichannel video programming distributors other than the largest multichannel video programming distributor exceeds 15 percent of the households in the franchise area; or

(C) A multichannel video programming distributor operated by the franchising authority for that franchise area offers video programming to at least 50 percent of the households of that franchise area; or

(D) A local exchange carrier or its affiliate (or any multichannel video programming distributor using the facilities of such carrier or its affiliate) offers video programming services directly to subscribers by any means (other than direct-to-home satellite services) in the franchise area of an unaffiliated cable operator which is providing cable service in that franchise area, but only if the video programming services so offered in that area are comparable to the video programming services provided by the unaffiliated cable operator in that area.

(d) *Significant overlap with authorized or franchised service area* For purposes of paragraph (a) of this section, a significant overlap of an incumbent LEC's or incumbent cable company's authorized or franchised service area occurs when at least 10 percent of the population of the authorized or franchised service area, as determined by the 1990 census figures for the counties contained in such service area, is within the LMDS licensed service area.

(e) *Definition of attributable interest.* For purposes of paragraph (a) of this section, an entity shall be considered to have an attributable interest in an incumbent LEC, incumbent cable company, or LMDS licensee pursuant to the following criteria:

(1) A controlling interest shall constitute an attributable interest. Controlling interest means majority voting equity ownership, any general partnership interest, or any means of actual working control (including negative control) over the operation of the entity, in whatever manner exercised.

(2) Partnership and similar ownership interests and any stock interest amounting to 20 percent or more of the equity, or outstanding stock or outstanding voting stock of an entity.

(3) Stock interests held in trust that exceed the limit set forth in paragraph (e)(2) of this section shall constitute an attributable interest of any person who holds or shares the power to vote such stock, of any person who has the sole power to sell such stock, and, in the case of stock held in trust, of any person who has the right to revoke the trust at will or to replace the trustee at will. If the trustee has a familial, personal, or extra-trust business relationship to the grantor or the beneficiary, the stock interests held in trust shall constitute an attributable interest of such grantor or beneficiary, as appropriate.

(4) Non-voting stock shall constitute an attributable interest in the issuing entity if it exceeds the limit set forth in paragraph (e)(2) of this section.

(5) Debt and interests such as warrants and convertible debentures, options, or other interests (except non-voting stock) with rights of conversion to voting interests shall not constitute attributable interests unless and until conversion is effected.

(6) Limited partnership interests amounting to 20 percent or more, calculated according to both the percentage of equity paid in and the percentage of distribution of profits and losses, shall constitute an attributable interest of each such limited partner.

(7) Officers and directors of an incumbent LEC or incumbent cable company, an LMDS licensee, or an entity that controls such incumbent LEC, incumbent cable company, or LMDS licensee, shall be considered to have an attributable interest in such incumbent LEC, incumbent cable company, or LMDS licensee.

(8) Ownership interests that are held indirectly by any party through one or more intervening corporations or other entities shall be determined by successive multiplication of the ownership percentages for each link in the vertical ownership chain and application of the relevant attribution benchmark to the resulting product, except that, if the ownership for any interest in any link in the

chain exceeds 50 percent or represents actual control, it shall be treated as if it were a 100 percent interest.

(9) Any person who manages the operations of an incumbent LEC or incumbent cable company or an LMDS licensee pursuant to a management agreement shall be considered to have an attributable interest in such incumbent LEC, incumbent cable company or LMDS licensee, if such person or its affiliate has authority to make decisions or otherwise engage in practices or activities that determine, or significantly influence:

- (i) The nature or types of services offered by such entity;
- (ii) The terms upon which such services are offered; or
- (iii) The prices charged for such services.

(10) Any person or its affiliate who enters into a joint marketing arrangement with an incumbent LEC, an incumbent cable company, an LMDS licensee, or an affiliate of such entity, shall be considered to have an attributable interest in such incumbent LEC, incumbent cable company, LMDS licensee, or affiliate, if such person or its affiliate has authority to make decisions or otherwise engage in practices or activities that determine:

- (i) The nature or types of services offered by such entity;
- (ii) The terms upon which such services are offered; or
- (iii) The prices charged for such services.

(f) *Divestiture.* Any incumbent LEC or incumbent cable company, or any entity owning an attributable interest in an incumbent LEC or incumbent cable company, that would otherwise be barred from participating in an LMDS auction by the eligibility restriction in paragraph (a) of this section, may be a party to an LMDS application (*i.e.*, have an attributable interest in the applicant), and such applicant will be eligible for an LMDS license, pursuant to the divestiture procedures set forth in paragraphs (f)(1) through (f)(6) of this section.

(1) Divestiture shall be limited to the following prescribed means:

(A) An LMDS applicant holding an attributable interest in an incumbent LEC or incumbent cable company may divest such interest in the incumbent LEC or cable company.

(B) Other LMDS applicants disqualified under paragraph (a), will be permitted to:

(i) Partition and divest that portion of the existing authorized or franchised service area that causes it to exceed the overlap restriction in paragraph (d) of this section, subject to applicable regulations of state and local governments; or

(ii) Partition and divest that portion of the LMDS geographic service area that exceeds the overlap restriction in paragraph (d) of this section.

(C) Divestiture may be to an interim trustee if a buyer has not been secured in the required period of time, as long as the LMDS applicant has no interest in or control of the trustee and the trustee may dispose of the license as it sees fit.

(2) The LMDS applicant shall certify as an exhibit to its short form application that it and all parties to the application will come into compliance with paragraph (a).

(3) If such LMDS applicant is a successful bidder in an auction, it must submit with its long-form application a signed statement describing its efforts to date and future plans to come into compliance with the eligibility restrictions in paragraph (a) of this section.

(4) If such an LMDS applicant is otherwise qualified, its application will be granted subject to a condition that the applicant shall come into compliance with the eligibility restrictions in paragraph (a), within ninety (90) days of final grant of such LMDS license.

(5) An LMDS applicant will be considered to have come into compliance with paragraph (a) of this section if:

(A) In the case of the divestiture of a portion of an LMDS license, it has submitted to the Commission an application for license assignment or transfer of control of the requisite portion of the LMDS geographic service area.

(B) In all other cases, it has submitted to the Commission a signed certification that it has come into compliance with paragraph (a) of this section by the following means, identified in such certification:

(i) By divestiture of a disqualifying interest in an incumbent LEC or incumbent cable company, identified in terms of the interest owned, the owner of such interest (and, if such owner is not the applicant itself, the relationship of the owner to the applicant), the name of the party to whom such interest has been divested, and the date such divestiture was executed; or

(ii) By divestiture of the requisite portion of the incumbent LEC's or incumbent cable company's existing authorized or franchised service area, identified in terms of the name of the party to whom such interest has been divested, the date such divestiture was executed, the name

of any regulatory agency that must approve such divestiture, and the date on which an application was filed for this purpose with the regulatory agency.

(6) If no such certification or application is tendered to the Commission within ninety (90) days of final grant of the initial license, the Commission may consider the short form certification and the long form divestiture statement to be material, bad faith misrepresentations and shall invoke the condition on the initial license, cancelling or rescinding it automatically, shall retain all monies paid to the Commission, and, based on the facts presented, shall take any other action it may deem appropriate.

Note 1 to paragraph (e): Waivers of § 101.1002(e) may be granted upon an affirmative showing:

(1) That the interest holder has less than a 50 percent voting interest in the licensee and there is an unaffiliated single holder of a 50 percent or greater voting interest;

(2) That the interest holder is not likely to affect the local market in an anticompetitive manner;

(3) That the interest holder is not involved in the operations of the licensee and does not have the ability to influence the licensee on a regular basis; and

(4) That grant of a waiver is in the public interest because the benefits to the public of common ownership outweigh any potential anticompetitive harm to the market.

§ 101.1005 Frequencies available.

(a) The following frequencies are available for assignment to LMDS in two license blocks:

Block A of 1,150 MHz Block B of 150 MHz

27,500-28,350 MHz 31,000-31,075 MHz

29,100-29,250 MHz 31,225-31,300 MHz

31,075-31,225 MHz

(b) In Block A licenses, the frequencies are authorized as follows:

(1) 27,500-28,350 MHz is authorized on a primary protected basis and is shared with Fixed Satellite Service (FSS) systems.

(2) 29,100-29,250 MHz is shared on a co-primary basis with feeder links for non-geostationary orbit Mobile Satellite Service (NGSO/MSS) systems in the band and is limited to LMDS hub-to-subscriber transmissions, as provided in § 25.257 and § 101.103(h) of this part.

(3) 31,075-31,225 MHz is authorized on a primary protected basis and is shared with private microwave point-to-point systems licensed prior to March 11, 1997, as provided in § 101.103(b).

(c) In Block B licenses, the frequencies are authorized as follows:

(1) on a primary protected basis if LMDS shares the frequencies with systems licensed as Local Television Transmission Service (LTTS) licensed prior to March 11, 1997, as provided in § 101.103(b).

(2) on a co-equal basis with systems not licensed as LTTS prior to March 11, 1997, as provided in § 101.103(g) of this part.

§ 101.1007 Geographic service areas and number of licenses.

LMDS service areas are Basic Trading Areas (BTAs) as defined in the Rand McNally 1992 Commercial Atlas & Marketing Guide, 123rd Edition, at pages 38-39, that identifies 487 BTAs based on the 50 States and as defined to include the BTA-like areas of the United States Virgin Islands, American Samoa, Guam, Mayaguez/Aguadilla-Ponce, Puerto Rico, San Juan, Puerto Rico, and the Commonwealth of Northern Marinas, for a total of 493 BTAs.

§ 101.1009 System operations.

(a) The licensee may construct and operate any number of fixed stations anywhere within the area authorized by the license without prior authorization, except as follows:

(1) A station would be required to be individually licensed if:

(A) international agreements require coordination;

(B) submission of an Environmental Assessment is required under § 1.1307.

(C) the station would affect the radio quiet zones under § 101.123.

(2) Any antenna structure that requires notification to the Federal Aviation Administration (FAA) must be registered with the Commission prior to construction under § 17.4.

(b) Whenever a licensee constructs or makes system changes as described in paragraph (a), the licensee is required to notify the Commission within 30 days of the change under § 101.61 and include a statement of the technical parameters of the changed station.

§ 101.1011 Construction requirements and criteria for renewal expectancy

(a) LMDS licensees must make a showing of "substantial service" in their license area within ten years of being licensed. "Substantial" service is defined as service which is sound, favorable, and substantially above a level of mediocre service which might minimally warrant renewal. Failure by any licensee to meet this requirement will result in forfeiture of the license and the licensee will be ineligible to regain it.

(b) A renewal applicant involved in a comparative renewal proceeding shall receive a preference, commonly referred to as a renewal expectancy, that is the most important comparative factor to be considered in the proceeding as long as the applicant's past record for the relevant license period demonstrates that:

(1) The renewal applicant has provided "substantial" service during its past license term; and

(2) The renewal applicant has substantially complied with applicable FCC rules, policies, and the Communications Act of 1934, as amended.

(c) In order to establish its right to a renewal expectancy, an LMDS renewal applicant involved in a comparative renewal proceeding must submit a showing explaining why it should receive a renewal expectancy. At a minimum, this showing must include:

(1) A description of its current service in terms of geographic coverage and population served:

(2) An explanation of its record of expansion, including a timetable of new construction to meet changes in demand for service:

(3) A description of its investments in its LMDS system; and

(4) Copies of all FCC orders finding the licensee to have violated the Communications Act or any FCC rule or policy; and a list of any pending proceedings that relate to any matter described in this paragraph.

(d) In making its showing of entitlement to a renewal expectancy, a renewal applicant may claim credit for any system modification applications that were pending on the date it filed its

renewal application. Such credit will not be allowed if the modification application is dismissed or denied.

§ 101.1013 Permissible communications services.

(a) Authorizations for stations in the Local Multipoint Distribution Service will be granted to provide services on a common carrier basis or a non-common carrier basis or on both a common carrier and non-common carrier basis in a single authorization.

(b) Stations may render any kind of communications service consistent with the Commission's rules and the regulatory status of the station to provide services on a common carrier or non-common carrier basis.

(c) An applicant or licensee may submit a petition at any time requesting clarification of the regulatory status required to provide a specific communications service.

§ 101.1015 Application form and contents.

(a) Applications for initial authorization are filed on FCC Form 175 in accordance with Subpart M of this Part, and Part 1, Subpart Q. FCC Form 600 is submitted subsequently either by the winning bidder, if an auction is held to decide among two or more mutually exclusive applications, or, in cases of no mutual exclusivity, by the sole applicant. Applications to amend pending applications and to modify licenses are filed on FCC Form 600.

(b) *Foreign ownership information* All LMDS applicants will provide the information requested on FCC Form 600 to address all of the eligibility requirements in § 101.7 of this Part. All licensees will keep the information updated.

§ 101.1017 Requesting regulatory status.

(a) *Initial applications.*

(1) An applicant will specify on FCC Form 600 if it is requesting authorization to provide services on a common carrier basis, a non-common carrier basis, or on both a common carrier and non-common carrier basis.

(b) *Amendment of pending applications.*

(1) Any pending application may be amended to: (i) change the carrier status requested, or (ii) add to the pending request in order to obtain both common carrier and non-common carrier status in a single license.

(2) Amendments to change, or add to, the carrier status in a pending application are minor amendments filed under § 101.29 in this Part.

(c) *Modification of license.*

(1) A licensee may modify a license to: (i) change the carrier status authorized, or (ii) add to the status authorized in order to obtain both common carrier and non-common carrier status in a single license.

(2) Applications to change, or add to, the carrier status in a license are modifications not requiring prior Commission authorization filed under § 101.61 of this Part. If the change results in the discontinuance, reduction, or impairment of an existing service, the licensee is also governed by § 101.305(b) or (c) and submits the application under § 101.61 in conformance with the time frames and requirements of § 101.305(b) or (c).

36. A new subpart M consisting of §§ 101.1101 through 101.1112 will be added to Part 101 to read as follows:

Subpart M -- Competitive Bidding Procedures for LMDS

Sec.

101.1101 LMDS service subject to competitive bidding.

101.1102 Competitive bidding design for LMDS.

101.1103 Competitive bidding mechanisms.

101.1104 Bidding application (FCC Forms 175 and 175-S).

101.1105 Submission of payments.

101.1106 Long-form application (FCC Form 600).

101.1107 Bidding credits for small businesses and entities with average gross revenues of not more than \$75 million.

101.1108 Installment payments for licenses won by small businesses and entities with average gross revenues of not more than \$75 million.

101.1109 Certifications, disclosures, records maintenance and audits.

101.1110 Petitions to deny.

101.1111 Procedures for partitioned licenses.

101.1112 Definitions.

§ 101.1101 LMDS service subject to competitive bidding.

Mutually exclusive initial applications for LMDS licenses are subject to competitive bidding procedures. The procedures set forth in part 1, subpart Q, of this chapter will apply unless otherwise provided in this part.

§ 101.1102 Competitive bidding design for LMDS.

The Commission will employ a simultaneous multiple round auction design when choosing from among mutually exclusive initial applications to provide LMDS, unless otherwise specified by the Wireless Telecommunications Bureau before the auction.

§ 101.1103 Competitive bidding mechanisms.

(a) *Sequencing.* The Commission will establish and may vary the sequence in which LMDS licenses are auctioned.

(b) *Grouping.* The Commission will determine which licenses will be auctioned simultaneously or in combination based on interdependency and administrative circumstances.

(c) *Minimum bid increments.* The Commission may, by public announcement before or during an auction, require minimum bid increments in dollar or percentage terms.

(d) *Stopping rules.* The Commission may establish stopping rules before or during an auction in order to terminate the auction within a reasonable time.

(e) *Activity rules.* The Commission may establish activity rules which require a minimum amount of bidding activity. In the event that the Commission establishes an activity rule in connection with a simultaneous multiple round auction, each bidder may request waivers of such rule during the auction. The Commission may, by public announcement either before or during the auction, specify or vary the number of waivers available to each bidder.

(f) *Bid withdrawal, default and disqualification payments.* The Commission will impose payments on bidders who withdraw high bids during the course of an auction, who default on payments due after an auction terminates, or who are disqualified. Payments will be calculated as set forth in §§ 1.2104(g) and 1.2109 of this chapter. When the amount of such a payment cannot be determined, a deposit of up to 20 percent of the amount bid on the license will be required.

(g) *Tie bids.* Where a tie bid occurs, the high bidder will be determined by the order in which the bids were received by the Commission.

§ 101.1104 Bidding application (FCC Forms 175 and 175-S).

Each applicant to participate in competitive bidding for LMDS licenses must submit an application (FCC Forms 175 and 175-S) pursuant to the provisions of § 1.2105 of this chapter.

§ 101.1105 Submission of payments.

(a) Each applicant to participate in an LMDS auction will be required to submit an upfront payment in accordance with § 1.2106 of this chapter as announced by the Wireless Telecommunications Bureau by Public Notice.

(b) Winning bidders in LMDS auctions, except those businesses meeting the definition of small business or qualifying as a business with average gross revenues for the preceding three years of not more than \$75 million under § 101.1112, must submit a down payment to the Commission in an amount sufficient to bring their total deposits up to 20 percent of their winning bids within ten business days following the release of a Public Notice announcing the close of the auction. Winning bidders, except those qualifying for installment payments, must pay the full balance of their winning bids with ten business days following the release of a Public Notice that the Commission is prepared to award the licenses.

(c) Winning bidders in LMDS auctions that meet the definition of small business or businesses with average gross revenues for the preceding three years of not more than \$75 million under § 101.1112 must submit a down payment to the Commission in an amount sufficient to bring their total deposits up to 10 percent of their winning bids within ten business days following the release of a Public Notice announcing the close of the auction, and up to 20 percent of their winning bids within ten business days of the release of a Public Notice that the Commission is prepared to award the licenses. The remaining 80 percent of the purchase price will then be subject to the installment financing provisions of § 101.1108.

§ 101.1106 Long-form application (FCC Form 600).

Each successful bidder for an LMDS license must submit a long-form application (FCC Form 600) within ten business days after being notified by Public Notice that it is the winning bidder. Applications for LMDS on FCC Form 600 must be submitted in accordance with § 1.2107 of this chapter, all applicable procedures set forth in the rules in this part, and any applicable Public Notices that the Commission may issue in connection with an auction. After an auction, the Commission will not accept long-form applications for LMDS licenses from anyone other than the auction winners and parties seeking partitioned licenses pursuant to agreements with auction winners under § 101.1111 of this chapter.

§ 101.1107 Bidding credits for small businesses and entities with average gross revenues of not more than \$75 million.

(a) A winning bidder that qualifies as a small business pursuant to § 101.1112 may use a bidding credit of 25 percent to lower the cost of its winning bid.

(b) A winning bidder that has average gross revenues for the preceding three years of more than \$40 million but not more than \$75 million pursuant to § 101.1112 may use a bidding credit of 15 percent to lower the cost of its winning bid.

(c) The bidding credits referenced in paragraphs (a) and (b) of this section are not cumulative.

(d) *Unjust enrichment.*

(1) A licensee that utilizes a bidding credit, and that during the initial license term seeks to assign or transfer control of a license to an entity that does not meet the eligibility criteria for a bidding credit, will be required to reimburse the U.S. government for the amount of the bidding credit plus interest at the rate imposed for installment financing at the time the license was awarded, as a condition of Commission approval of the assignment or transfer. If, within the initial term of the license, a licensee that utilizes a bidding credit seeks to assign or transfer control of a license to an entity that is eligible for a lower bidding credit, the difference between the bidding credit obtained by the assigning party and the bidding credit for which the acquiring party would qualify, plus interest at the rate imposed for installment financing at the time the license was awarded, must be paid to the U.S. government as a condition of Commission approval of the assignment or transfer. If, within the initial license term, a licensee that utilizes a bidding credit seeks to make any ownership change that would result in the licensee losing eligibility for a bidding credit (or qualifying for a lower bidding credit), the amount of the bidding credit (or the difference between the bidding credit originally obtained and the bidding credit for which the restructured licensee would qualify), plus interest at the rate imposed for installment financing at the time the license was awarded, must be paid to the U.S. government as a condition of Commission approval of the ownership change.

(2) The amount of payments made pursuant to paragraph (d)(1) of this section will be reduced over time as follows: (1) a transfer in the first two years of the license term will result in a forfeiture of 100 percent of the value of the bidding credit (or, in the case of small businesses transferring to businesses having average gross revenues of more than \$40 million but not more than \$75 million, 100 percent of the difference between the bidding credit received by the former and the bidding credit for which the latter is eligible); (2) in year three of the license term the payment will be 75 percent; (3) in year four the payment will be 50 percent; and (4) in year five the payment will be 25 percent, after which there will be no required payment.

§ 101.1108 Installment payments for licenses won by small businesses and entities with average gross revenues of not more than \$75 million.

(a) A winning bidder that qualifies as a small business pursuant to § 101.1112 must submit to the Commission a down payment of 20 percent of the net auction price for the license pursuant to

§ 101.1105(c) of this chapter and may pay the remaining 80 percent of the net auction price for the license in installment payments over the term of the license. Interest shall be imposed based on the rate for ten-year U.S. Treasury obligations applicable on the date the license is granted, plus 2.5 percent. Payments shall include interest only for the first two years and payments of interest and principal amortized over the remaining eight years of the license term.

(b) A winning bidder that has average gross revenues for the three preceding years of more than \$40 million but not more than \$75 million pursuant to § 101.1112 must submit to the Commission a down payment of 20 percent of the net auction price for the license pursuant to § 101.1105(c) of this chapter and may pay the remaining 80 percent of the net auction price for the license in installment payments. Interest shall be imposed based on the rate for ten-year U.S. Treasury obligations applicable on the date the license is granted, plus 2.5 percent. Payment of interest and principal shall be amortized over the ten years of the license term.

(c) *Unjust enrichment.* A licensee that utilizes installment financing and that seeks to assign or transfer control of a license to an entity not meeting the eligibility standards for installment payments must pay not only unpaid principal but also any unpaid interest accrued through the date of assignment or transfer as a condition of Commission approval. If a licensee that utilizes installment financing seeks to assign or transfer control of a license to an entity qualifying for a less favorable installment plan, its payment plan will be adjusted to reflect the assignee's or transferee's eligibility status as a condition of Commission approval of the assignment or transfer. If a licensee that utilizes installment financing seeks to change its ownership structure in such a way that would result in a loss of eligibility for installment payments, it must pay the unpaid principal and accrued interest as a condition of Commission approval of the change. If such a change in ownership would result in the licensee qualifying for a less favorable installment plan, it must adjust its payment plan to reflect its new eligibility status as a condition of Commission approval. A licensee may not change its payment plan to a more favorable plan.

(d) *Late installment payment.* Any licensee that submits a scheduled installment payment more than fifteen days late will be charged a late payment fee equal to five percent of the amount of the past due payment.

(e) Payments will be applied in the following order: late charges, interest charges, principal payments.

§ 101.1109 Certifications, disclosures, records maintenance and audits.

(a) *Short-form applications: certifications and disclosure.* In addition to certifications and disclosures required in part 1, subpart Q, of this chapter, each applicant for an LMDS license which qualifies as a small business or a business with average gross revenues for the three

preceding years of more than \$40 million but not more than \$75 million shall append the following information as an exhibit to its FCC Form 175:

- (1) The identity of the applicant's affiliates and controlling principals; and
- (2) The applicant's gross revenues, computed in accordance with § 101.1112.

(b) *Long-form applications: certifications and disclosure.* In addition to the requirements in § 1.2107, each applicant submitting a long-form application for an LMDS license and qualifying as a small business or a business with average gross revenues for the three preceding years of more than \$40 million but not more than \$75 million shall, in an exhibit to its long-form application:

- (1) Disclose separately and in the aggregate the gross revenues, computed in accordance with § 101.1112, for each of the following: the applicant, the applicant's affiliates, the applicant's controlling principals, and, if a consortium of small businesses or businesses with average gross revenues for the three preceding years of more than \$40 million but not more than \$75 million, the members of the joint venture;

- (2) List and summarize all agreements or other instruments (with appropriate references to specific provisions in the text of such agreements and instruments) that support the applicant's eligibility as a small business or a business with average gross revenues for the three preceding years of more than \$40 million but not more than \$75 million, including the establishment of *de facto* and *de jure* control; such agreements and instruments include, but are not limited to, articles of incorporation and bylaws, shareholder agreements, voting or other trust agreements, franchise agreements, and any other relevant agreements including letters of intent, oral or written; and

- (3) List and summarize any investor protection agreements, including rights of first refusal, supermajority clauses, options, veto rights, and rights to hire and fire employees and to appoint members to boards of directors or management committees.

(c) *Records maintenance.* All winning bidders qualifying as small businesses or businesses with average gross revenues for the three preceding years of more than \$40 million but not more than \$75 million shall maintain at their principal place of business an updated file of ownership, revenue, and asset information, including any document necessary to establish eligibility as a small business or business with average gross revenues for the three preceding years of more than \$40 million but not more than \$75 million. Licensees (and their successors-in-interest) shall maintain such files for the term of the license. Applicants that do not obtain the license(s) for which they applied shall maintain such files until the grant of such license(s) is final, or one year from the date of the filing of their short-form application (FCC Form 175), whichever is earlier.

(d) *Audits.*

(1) Applicants and licensees claiming eligibility as a small business or business with average gross revenues for the three preceding years of more than \$40 million but not more than \$75 million shall be subject to audits by the Commission. Selection for audit may be random, on information, or on the basis of other factors.

(2) Consent to such audits is part of the certification included in the short-form application (FCC Form 175). Such consent shall include consent to the audit of the applicant's or licensee's books, documents and other material (including accounting procedures and practices) regardless of form or type, sufficient to confirm that such applicant's or licensee's representations are, and remain, accurate. Such consent shall include inspection at all reasonable times of the facilities, or parts thereof, engaged in providing and transacting business, or keeping records regarding licensed LMDS service, and shall also include consent to the interview of principals, employees, customers and suppliers of the applicant or licensee.

§ 101.1110 Petitions to deny.

Procedures regarding petitions to deny long-form applications in the LMDS service will be governed by §§ 1.2108(b) through 1.2108(d) of this chapter.

§ 101.1111 Procedures for partitioned licenses.

(a) LMDS licensees may apply to partition their licensed geographic service area or disaggregate their licensed spectrum.

(b) If partitioned licenses or disaggregated licenses are being applied for in conjunction with a license(s) to be awarded through competitive bidding procedures --

(1) The applicable procedures for filing short-form applications and for submitting upfront payments and down payments contained in this Chapter shall be followed by the applicant, which must disclose as part of its short-form application all parties to agreement(s) with or among entities to partition or disaggregate the license pursuant to this section, if won at auction. See § 1.2105(a)(2)(viii).

(2) Each entity that is a party to an agreement to partition the license shall file a long-form application for its respective, mutually agreed-upon geographic area or spectrum together with the application for the remainder of the BTA or spectrum filed by the auction winner.

(c) If the partitioned or disaggregated license is being applied for as a partial assignment of the license following grant of the initial license, request for authorization for partial assignment of a license shall be made pursuant to § 101.115(f).

§ 101.1112 Definitions.

(a) *Scope.* The definitions in this section apply to §§ 101.1101 through 101.1112, unless otherwise specified in those sections.

(b) *Small business; consortium.*

(1) A small business is an entity that, together with its affiliates and controlling principals, has average gross revenues for the three preceding years of not more than \$40 million.

(2) For purposes of determining whether an entity meets the definition of small business or qualifies as a business with average gross revenues for the three preceding years of more than \$40 million but not more than \$75 million, the gross revenues of the applicant, its affiliates and controlling principals shall be considered on a cumulative basis and aggregated.

(3) *Consortium.* A consortium of small businesses, or a consortium of businesses with average gross revenues for the three preceding years of more than \$40 million but not more than \$75 million, is a conglomerate organization formed as a joint venture between or among mutually independent business firms, each of which individually satisfies the definition of a small business or business with average gross revenues for the three preceding years of more than \$40 million but not more than \$75 million. Each individual member must establish its eligibility as a small business or business with average gross revenues for the three preceding years of more than \$40 million but not more than \$75 million. Where an applicant (or licensee) is a consortium of small businesses or a consortium of businesses with average gross revenues for the three preceding years of more than \$40 million but not more than \$75 million, the gross revenues of each business shall not be aggregated.

(c) *Gross Revenues.* Gross revenues shall mean all income received by an entity, whether earned or passive, before any deductions are made for costs of doing business (*e.g.*, cost of goods sold), as evidenced by audited financial statements for the relevant number of most recently completed calendar years, or, if audited financial statements were not prepared on a calendar-year basis, for the most recently completed fiscal years preceding the filing of the applicant's short-form application (FCC Form 175). If an entity was not in existence for all or part of the relevant period, gross revenues shall be evidenced by the audited financial statements of the entity's predecessor-in-interest or, if there is no identifiable predecessor-in-interest, unaudited financial statements certified by the applicant as accurate. When an applicant does not otherwise use audited

financial statements, its gross revenues may be certified by its chief financial officer or its equivalent.

(d) *Affiliate.*

(1) *Basis for affiliation.* An individual or entity is an affiliate of an applicant if such individual or entity:

(i) Directly or indirectly controls or has the power to control the applicant, or

(ii) Is directly or indirectly controlled by the applicant, or

(iii) Is directly or indirectly controlled by a third party or parties who also control or have the power to control the applicant, or

(iv) Has an "identity of interest" with the applicant.

(2) *Nature of control in determining affiliation.*

(i) Every business concern is considered to have one or more parties who directly or indirectly control or have the power to control it. Control may be affirmative or negative and it is immaterial whether it is exercised so long as the power to control exists.

Example for paragraph (d)(2)(i). An applicant owning 50 percent of the voting stock of another concern would have negative power to control such concern since such party can block any action of the other stockholders. Also, the bylaws of a corporation may permit a stockholder with less than 50 percent of the voting stock to block any actions taken by the other stockholders in the other entity. Affiliation exists when the applicant has the power to control a concern while at the same time another person, or persons, are in control of the concern at the will of the party or parties with the power of control.

(ii) Control can arise through stock ownership; occupancy of director, officer, or key employee positions; contractual or other business relations; or combinations of these and other factors. A key employee is an employee who, because of her position in the concern, has a critical influence in or substantive control over the operations or management of the concern.

(iii) Control can arise through management positions if the voting stock is so widely distributed that no effective control can be established.

Example for paragraph (d)(2)(iii). In a corporation where the officers and directors own various size blocks of stock totaling 40 percent of the corporation's voting stock,

but no officer or director has a block sufficient to give him control or the power to control and the remaining 60 percent is widely distributed with no individual stockholder having a stock interest greater than 10 percent, management has the power to control. If persons with such management control of the other entity are controlling principals of the applicant, the other entity will be deemed an affiliate of the applicant.

(3) *Identity of interest between and among persons.*

Affiliation can arise between or among two or more persons with an identity of interest, such as members of the same family or persons with common investments. In determining if the applicant controls or is controlled by a concern, persons with an identity of interest will be treated as though they were one person.

(i) *Spousal affiliation.* Both spouses are deemed to own or control or have the power to control interests owned or controlled by either of them, unless they are subject to a legal separation recognized by a court of competent jurisdiction in the United States.

(ii) *Kinship affiliation.* Immediate family members will be presumed to own or control or have the power to control interests owned or controlled by other immediate family members. In this context "immediate family member" means father, mother, husband, wife, son, daughter, brother, sister, father- or mother-in-law, son- or daughter-in-law, brother- or sister-in-law, step-father or -mother, step-brother or -sister, step-son or -daughter, half-brother or -sister. This presumption may be rebutted by showing that:

(A) The family members are estranged,

(B) The family ties are remote, or

(C) The family members are not closely involved with each other in business matters.

Example for paragraph (d)(3)(ii). A owns a controlling interest in Corporation X. A's sister-in-law, B, has a controlling interest in an LMDS license application. Because A and B have a presumptive kinship affiliation, A's interest in Corporation X is attributable to B, and thus to the applicant, unless B rebuts the presumption with the necessary showing.

(4) *Affiliation through stock ownership.*

(i) An applicant is presumed to control or have the power to control a concern if she owns or controls or has the power to control 50 percent or more of its voting stock.

(ii) An applicant is presumed to control or have the power to control a concern even though he owns, controls, or has the power to control less than 50 percent of the concern's voting stock, if the block of stock she owns, controls, or has the power to control is large as compared with any other outstanding block of stock.

(iii) If two or more persons each owns, controls or has the power to control less than 50 percent of the voting stock of a concern, such minority holdings are equal or approximately equal in size, and the aggregate of these minority holdings is large as compared with any other stock holding, the presumption arises that each one of these persons individually controls or has the power to control the concern; however, such presumption may be rebutted by a showing that such control or power to control, in fact, does not exist.

(5) *Affiliation arising under stock options, convertible debentures, and agreements to merge.* Stock options, convertible debentures, and agreements to merge (including agreements in principle) are generally considered to have a present effect on the power to control the concern. Therefore, in making a size determination, such options, debentures, and agreements will generally be treated as though the rights held thereunder had been exercised. However, neither an affiliate nor an applicant can use such options and debentures to appear to terminate its control over another concern before it actually does so.

Example 1 for paragraph (d)(5). If company B holds an option to purchase a controlling interest in company A, who holds a controlling interest in an LMDS application, the situation is treated as though company B had exercised its rights and had become owner of a controlling interest in company A. The gross revenues of company B must be taken into account in determining the size of the applicant.

Example 2 for paragraph (d)(5). If a large company, BigCo, holds 70 percent (70 of 100 outstanding shares) of the voting stock of company A, who holds a controlling interest in an LMDS license application, and gives a third party, SmallCo, an option to purchase 50 of the 70 shares owned by BigCo, BigCo will be deemed to be an affiliate of company A, and thus the applicant, until SmallCo actually exercises its options to purchase such shares. In order to prevent BigCo from circumventing the intent of the rule, which requires such options to be considered on a fully diluted basis, the option is not considered to have present effect in this case.

Example 3 for paragraph (d)(5). If company A has entered into an agreement to merge with company B in the future, the situation is treated as though the merger has taken place.

(6) *Affiliation under voting trusts.*

(i) Stock interests held in trust shall be deemed controlled by any person who holds or shares the power to vote such stock, to any person who has the sole power to sell such stock, and to any person who has the right to revoke the trust at will or to replace the trustee at will.

(ii) If a trustee has a familial, personal or extra-trust business relationship to the grantor or the beneficiary, the stock interests held in trust will be deemed controlled by the grantor or beneficiary, as appropriate.

(iii) If the primary purpose of a voting trust, or similar agreement, is to separate voting power from beneficial ownership of voting stock for the purpose of shifting control of or the power to control a concern in order that such concern or another concern may meet the Commission's size standards, such voting trust shall not be considered valid for this purpose regardless of whether it is or is not recognized within the appropriate jurisdiction.

(7) *Affiliation through common management.* Affiliation generally arises where officers, directors, or key employees serve as the majority or otherwise as the controlling element of the board of directors or the management (or both) of another entity.

(8) *Affiliation through common facilities.* Affiliation generally arises where one concern shares office space, employees, or other facilities (or any combination of the foregoing) with another concern, particularly where such concerns are in the same or related industry or field of operations, or where such concerns were formerly affiliated, and through these sharing arrangements one concern has control, or potential control, of the other concern.

(9) *Affiliation through contractual relationships.* Affiliation generally arises where one concern is dependent upon another concern for contracts and business to such a degree that one concern has control, or potential control, of the other concern.

(10) *Affiliation under joint venture arrangements.*

(i) A joint venture for size determination purposes is an association of concerns or individuals (or both), with interests in any degree or proportion, formed by contract, express or implied, to engage in and carry out a single, specific business venture for joint profit for which purpose they combine their efforts, property, money, skill and knowledge, but not on a continuing or permanent basis for conducting business generally. The determination whether an entity is a joint venture is based upon the facts of the business operation, regardless of how the business operation may be designated by the parties involved. An agreement to share profits/losses proportionate to each party's contribution to the business operation is a significant factor in determining whether the business operation is a joint venture.

(ii) The parties to a joint venture are considered to be affiliated with each other.

APPENDIX B

List of Existing Governmental and Private Business 31 GHz Licensees

The Commission has decided to auction two licenses in each BTA simultaneously, one license for 1,150 MHz, consisting of 1,000 megahertz located in the 28 GHz band and 150 megahertz located in the center of the 300 megahertz segment of the 31 GHz band (31,075-31,225 MHz), and a smaller license for 150 megahertz, located entirely in the 31 GHz band. This second 150 megahertz license consists of two 75 megahertz segments located at each end of the 300 megahertz block (31,000-31,075 MHz and 31,225-31,300 MHz). LMDS service providers will be entitled to interference protection from any other presently-authorized primary users in the entire band. Although LMDS operations are permitted in the 31,000-31,075 and 31,225-31,300 MHz bands, incumbent governmental licensees and private business users, and excluding LTTS licensees, operating in these two segments are entitled to protection against harmful interference from any LMDS operation in these blocks. Therefore, bidders should be aware that some BTA's have incumbent operations in the smaller 150 megahertz block that must be protected from harmful interference under the Commission's Rules.

Listed below are BTAs with incumbent licensees and the cities in which operations are authorized. Prospective bidders should not rely solely on this list, but should carefully review the Commission's databases and records before formulating bidding strategies. Records relating to these stations are available for public inspection during regular business hours in the FCC Reference Room at the Federal Communications Commission, 1270 Fairfield Road, Gettysburg, Pennsylvania.

Market No.	Basic Trading Area	Authorizations	Cities with Authorized Operations	Licensees/Call Signs
B262	Los Angeles, CA		La Habra, CA	City of La Habra/WNTV232
			Montclair, CA	City of Montclair/WNTR498, etc.
			Palm Springs, CA	City of Palm Springs/WNTV245, etc.
			San Bernardino, CA	City of San Bernardino/WNTS881 County of San Bernardino/WNTU750
			Upland, CA	City of Upland/WNTT952
B245	Las Vegas, NV		Laughlin, NV	Budget Rental Car of Northern Arizona/WNTZ735
			Bullhead City, AZ	Budget Rental Car of Northern Arizona/WNTZ734
B402	San Diego, CA		San Diego, CA	City of San Diego/WPIF232

Market No.	Basic Trading Area	Authorizations	Cities with Authorized Operations	Licensees/Call Signs
B404	San Francisco, CA		Cupertino, CA	City of Cupertino/WNTR886, etc.
			Daly City, CA	City of Daly City/WNTW384
			Menlo Park, CA	Venture Law Group/WPJF201, etc.
			Petaluma, CA	City of Petaluma/WNTT654, etc.
			Santa Clara, CA	City of Santa Clara/WNTR417
			San Francisco, CA	Academy of Art College/WPJB264, etc.
B389	Sacramento, CA		Sacramento, CA	State of California/WNTY579
B434	Stockton, CA		Tracy, CA	City of Tracy/WNTW798
B074	Charlotte, NC		Charlotte, NC	City of Charlotte/WNTW392
B051	Boston, MA		Framingham, MA	Preseptive Bio Systems, Inc./WPJC807, etc.
			Natick, MA	Natural Microsystems, Inc./WPJC925, etc.
B024	Atlanta, GA		Marietta, GA	County of Cobb/WPJE982
B297	Milwaukee, WI		Milwaukee, WI	Dept. of Transportation State of WI/WPJD491, etc.
B413	Seattle-Tacoma, WA		Burlington, WA	State of Washington/WNTR826
			Seattle, WA	State of Washington/WNTS695, etc.
B347	Phoenix, AZ		Mesa, AZ	Lutheran Healthcare Network/WNTX926
B421	Sioux City, IA		Sioux City, IA	Nutra Flo ITI/WNTV448, etc.
B445	Topeka, KS		Topeka, KS	City of Topeka/WNTW208

Market No.	Basic Trading Area	Authorizations	Cities with Authorized Operations	Licensees/Call Signs
B202	Idaho Falls, ID		Idaho Falls, ID	City of Idaho Falls/WNTW717
			Gulf of Mexico	Chevron USA, Inc./WNTX932

APPENDIX C

Initial Regulatory Flexibility Analysis

As required by the Regulatory Flexibility Act,¹ the Commission has prepared an Initial Regulatory Flexibility Analysis (IRFA) of the expected impact on small entities of the policies and rules proposed in the Fifth Notice of Proposed Rulemaking (Fifth NPRM). Written public comments are requested on the IRFA. Comments must be identified as responses to the IRFA and must be filed by the deadlines for comments on the Notice. The Secretary shall send a copy of the Fifth NPRM, including the IRFA, to the Chief Counsel for Advocacy of the Small Business Administration in accordance with the RFA.²

Need for and Objectives: Our objectives are to afford licensees the flexibility to disaggregate and partition their licenses so as to: (1) promote efficient use of LMDS spectrum by leaving determinations regarding the correct size of licenses to the licensees, who are in the best position to analyze their business plans, assess new technology, and determine customer demand, (2) encourage more rapid deployment of services in the LMDS spectrum, (3) enable licensees to concentrate on core areas or to deliver services to isolated complexes, such as rural towns or university campuses, that do not lie within major market areas, and (4) provide opportunities for small businesses seeking to enter the multichannel video programming distribution and local telephony marketplaces.

Legal Basis for Proposed Rules: The proposed action is authorized under the Administrative Procedure Act, 5 U.S.C. § 553; and §§ 4(i), 257, 303(g), 303(r) 309(j) and 332(a) of the Communications Act of 1934, 47 U.S.C. §§ 154(i), 257, 303(g), 303(r), 309(j), 332(a).

Description and Estimate of Small Entities Subject to the Rules: We incorporate by reference the detailed description and estimate of the number of potential small LMDS licensees identified in the accompanying FRFA for the Second Report and Order, Appendix D, *infra*.

Reporting, Recordkeeping, and Other Compliance Requirements: Under the proposal contained in the Fifth NPRM: (1) acquisitions by partitioning or disaggregation will be treated as assignments of a license and will require the parties to seek prior approval of the Commission ; (2) the parties will be required to identify which of them will be responsible for complying with the construction requirements set forth in the Second Report and Order we have adopted today, and to submit a certification to that effect, signed by both parties; (3) parties failing to meet their construction requirement obligations will be subject to forfeiture of their license;

¹ 5 U.S.C. § 603 (RFA).

² 5 U.S.C. § 603(a).

(4) licensees afforded bidding preferences and other benefits available to small entities will be subject to the Commission's unjust enrichment rules should they partition or disaggregate to entities that are not small businesses. If adopted, this proposal would apply to all LMDS licensees and all entities that attempt to acquire an LMDS license by means of partitioning or disaggregation. We request comment on how these requirements can be modified to reduce the burden on small entities and still meet the objectives of the proceeding.

Significant Alternatives Minimizing the Significant Economic Impact on a Substantial Number of Small Entities Consistent with the Stated Objectives: We have not identified any significant alternatives that would minimize the significant economic impact on small entities that are consistent with the stated objectives to allow a flexible approach to partitioning and disaggregation of LMDS. We tentatively conclude that a flexible approach affords providers, including small businesses, the ability to respond to market forces and demands for service relevant to their particular locations and service offerings.

The regulatory burdens we have imposed on LMDS licensees with respect to assignments and buildout certifications, as well as unjust enrichment, are necessary in order to ensure that the public receives the benefits of innovative new services in a prompt and efficient manner. We seek comment on any significant alternatives that are consistent with the objectives in the NPRM.

Federal Rules That Overlap, Duplicate, or Conflict with These Proposed Rules: None.

APPENDIX D

Final Regulatory Flexibility Analysis

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As required by the Regulatory Flexibility Act, 5 U.S.C. § 603 (RFA), an Initial Regulatory Flexibility Analysis (IRFA) was incorporated in the *First NPRM*, the *Third NPRM*, and the *Fourth NPRM* in this proceeding.¹ The Commission sought written public comments on the proposals in each of the Notices, including on the IRFA. The Commission's Final Regulatory Flexibility Analysis (FRFA) in this Second Report and Order (hereinafter in this Appendix referred to as the "Order") conforms to the RFA, as amended by the Contract with America Advancement Act of 1996 (CWAAA), Pub. L. No. 104-121, 110 Stat. 847 (1996).²

I. Need for and Objectives of Action

We adopt licensing and service rules to establish a flexible regulatory framework for the implementation of Local Multipoint Distribution Service (LMDS), a new broadband wireless communications service. We designate spectrum in the 31.0-31.3 GHz (31 GHz) band for LMDS, in addition to the 28 GHz designated in the *First Report and Order*, to ensure adequate spectrum needed for the broad array of video programming and one-way or two-way telecommunications and data services that may be offered by LMDS providers and to promote competition with incumbent cable and local exchange telephone service (LEC) providers.

We provide for licenses based on broad geographic areas known as BTAs and issued in two sizes for each area, 1,150 megahertz and 150 megahertz. The larger size service areas may offer economies of scale, while the smaller service areas may encourage new entrants and technological experiments to meet local or special needs. We limit the eligibility of incumbent LECs and cable companies from being issued the larger license in their areas of operation for three years, in order to promote the development of LMDS and ensure a meaningful increase in competition in the local telephone and cable markets.

The adoption of competitive bidding rules promotes the expedited delivery of this technology to the public and permits recovery for the public of a portion of the value of the public spectrum resource made available for commercial use. Additional objectives in adopting these rules are to assure that the spectrum is used efficiently, to provide entities of any size a meaningful opportunity to bid on this spectrum despite limited capital resources, and to avoid unjust enrichment through the methods used to award uses of this resource.

We deny petitions for reconsideration of our dismissal in the *First NPRM* of applications for waiver which sought to allow petitioners to provide LMDS in the 28 GHz band under the

¹ Certain short form references used in the Second Report and Order are also used in this Appendix.

² Title II of the Contract with America Act is "The Small Business Regulatory Enforcement Fairness Act of 1996" (SBREFA), codified at 5 U.S.C. §§ 601 *et seq.*

existing point-to-point rules. We defer consideration of the comments filed in response to our tentative decision in the *Third NPRM* to grant CellularVision a Pioneer Preference, until the record is supplemented upon conclusion of a peer review process that we require in the Order.

II. Summary of Issues Raised by Public Comments In Response to Initial Regulatory Flexibility Analysis

A. IRFA Issues

We received one comment in direct response to the IRFA in the *Fourth NPRM* based on our request for comment on our proposal to designate, on a primary protected basis, the 31.0-31.3 GHz (31 GHz) band to LMDS. SBA opposes our proposed designation because it contends that the *Fourth NPRM* fails to consider the impact on existing users of the spectrum, which it argues are largely small governmental entities and small businesses. SBA contends that, in Section IV of the IRFA, the description and estimate of the number of small entities to which the proposed rule will apply misconstrues and underestimates the small entities that are incumbent licensees. It asserts that rather than 25 or 26 licensees, as we estimated, the comments of Sunnyvale indicate there are more than 40 incumbent local governments holding licenses. SBA contends that Sierra asserts there are as many as 100 incumbent licensees and there are over a dozen marketers or resellers of its equipment that are small businesses. We consider in the Order the comments of SBA and other commenters on the number of licensees in the 31 GHz service, as discussed fully in paragraphs 44-51 of the Order, and later in this FRFA.

SBA further argues that, in Section VI of the IRFA, we failed to consider significant alternatives to redesignating the entire 31 GHz band to LMDS that might minimize the impact on the incumbent licensees that are small entities. It argues that the only alternative to the proposed 31 GHz designation that we considered in the IRFA involved alternative spectrum bands for LMDS to use, rather than any alternatives for the incumbent licensees.

We consider in the Order the comments of SBA and other commenters on numerous alternatives to accommodate existing licensees in the 31 GHz services, as discussed fully in paragraphs 69-103 of the Order, and later in this FRFA. The IRFA itself did not identify any alternatives to our proposed designation of 31 GHz for LMDS in order to reduce the impact on incumbent licensees. However, the text of the *Fourth NPRM*, in paragraphs 100-104, specifically identified several alternative methods by which incumbent operations could be accommodated if LMDS were authorized on a primary protected basis in the 31 GHz band. We requested comments on those alternatives and any other options we should consider that would not impose undue economic burdens on the new LMDS operations. We modify our proposal and adopt a band-sharing plan that provides non-LTTS incumbent licensees with protection from LMDS on a portion of the 31 GHz band, while designating the entire band for LMDS.

B. Other Service Issues

We also consider significant issues raised in comments to our proposals in the *First NPRM*, *Third NPRM*, and *Fourth NPRM* that may have a significant economic impact on a substantial number of small entities. In response to the *Fourth NPRM*, several comments were filed in response to our proposal to designate, on a primary protected basis, the 31 GHz band for LMDS and our request for comments on various alternatives for accommodating the incumbent 31 GHz licensees. Several comments were received from proponents of LMDS, including CellularVision, in favor of designating 31 GHz for LMDS, while several comments were received from proponents of the existing 31 GHz services that oppose changes to the services and their being relegated to secondary status to LMDS.

We received several comments in response to the accommodation proposals. All of the comments opposing our proposal, including IMSA and ITE on behalf of their members, argue that permitting LMDS to operate in the entire 300 megahertz on a primary basis essentially would eliminate their operations and that co-existence under these circumstances would not be possible. Palm Springs argues that it would be forced to disband its 31 GHz traffic communication system, creating undue hardship. On the other hand, CellularVision and Endgate assert that, as LMDS licensees, they would offer leasing options to incumbents, if available. Several comments argue against our suggestion that current 31 GHz services could move to another frequency band where protection for such operations is provided under our rules, such as 23 GHz. Sierra, as the primary manufacturer of the 31 GHz equipment, asserts that the cost of modifying equipment for other bands would be more than replacement costs and also would require the development of new equipment. Topeka argues that moving to the 21 GHz band would cause financial hardship that would require allocating funds through local tax dollars and it seeks to avoid the costs of converting or replacing equipment that may be required by a move.

In response to our request for cooperation among the LMDS providers and existing licensees to explore methods for allowing the services to coexist, CellularVision and Sierra submit two different band-sharing plans. In CellularVision's plan for 25 megahertz at each end of band for incumbent services, Sierra argues that the equipment for 31 GHz would not function in the narrow bandwidth and important traffic signal services could not be provided. It argues that the 75 megahertz at each end that it proposes in its plan would not require expensive modifications and would accommodate existing services. Sierra argues that its plan is supported by current 31 GHz licensees. SBA and USDOT, as Federal Government entities, support the Sierra plan and argue that incumbent services should be maintained to assist in meeting national goals of reducing traffic congestion and air pollution.

The governmental entities, manufacturers, and organizations in support of incumbent services argue that we should accept new applications, modifications, and renewal applications in the band for traffic control systems. For example, Palm Springs asserts that it plans to build out

its 31 GHz microwave system from the current 35 signals to a total of 70 signals over the next three years. It requests that we maintain their ability to use the band for their systems. Topeka argues that, if we adopt our proposal, we at least grandfather existing licensees in the LMDS rules to permit renewals and modifications and to ensure their protection from LMDS interference.

Of the remaining issues, some commenters oppose our proposal in the *Fourth NPRM* that both the 28 GHz band and the 31 GHz band be assigned as a single block in an LMDS license. For example, the Ad Hoc RTC and others request that the 31 GHz block be licensed as a separate unit in each LMDS service area. Emc³ argues that as little as 150 megahertz of spectrum could be used to provide a viable service using digital technology. WCA argues for three licenses per geographic area, the smallest being 150 megahertz. These commenters argue that additional licenses of smaller bandwidth would provide for smaller operators, encourage the development of niche markets, and promote economical services similar to those in narrower bandwidth licenses, particularly in rural areas.

Some commenters, including M3ITC, oppose our proposal in the *Third NPRM* to license LMDS on broad geographic areas based on the Rand McNally Commercial and Marketing Guide Basic Trading Areas (BTAs). They argue that use of the smaller designations of Metropolitan Statistical Areas (MSAs) and Rural Service Areas (RSAs) would provide more manageable territories within which to initiate service and be more affordable for entrepreneurs.

CellularVision and other commenters support our proposal to permit the disaggregation of spectrum by LMDS licensees and to permit the geographic partitioning of any part of an LMDS license.

Many comments support our request for comments in the *Fourth NPRM* on whether to temporarily restrict eligibility of incumbent LECs and cable companies that seek to obtain LMDS licenses in their geographic service areas. CVTT and SkyOptics argue that LECs and cable companies should be permanently ineligible in order to ensure that smaller companies enter the new market. Other comments, including WebCel, advocate restrictions limited to those areas in which LECs and cable companies currently operate. Other parties, including CellularVision, argue that we should impose restrictions on the largest LECs and cable companies or allow incumbents to hold only one LMDS license. Some parties oppose our proposal to define in-region incumbent LECs or cable companies based on a 20 percent population threshold and to define an attributable interest to be an ownership interest of 10 percent. Some parties, including RioVision and other small entities, agree that the restrictions could end when competition is sufficient, either after a five-year period or under a test established by the Commission.

Virtually all the comments support our proposal in the *First NPRM* to designate a new LMDS service from the existing point-to-point microwave common carrier service to a local

multipoint distribution service that allows non-common carrier service as well as common carrier service. CellularVision, M3ITC, and other small entities seek a broad service definition that allows the LMDS provider to choose any common or non-common carrier service within the technical rules. CellularVision and other commenters oppose our proposal to apply a presumption that a service is common carriage. They argue that the licensing framework should be sufficiently open and flexible to allow the business judgments of licensees to shape the nature of the services to be offered.

Some comments, including M3ITC, oppose our proposal in the *Third NPRM* to impose construction requirements on licensees and require service to be available to a minimum of one-third of the population of their geographic areas within five years from the date of license grant, and to two-thirds of the population within ten years from the date of the grant of the license. M3ITC alternatively argues that a time limit such as eight years would be sufficient to claim a service area, after which unserved areas should be opened for licensing. ComTech, on the other hand, supports the requirements and requests that we impose a faster requirement for companies that acquire a license adjacent to their existing service area to ensure against anti-competitive behavior.

With respect to the technical rules proposed in the *Third NPRM*, CellularVision, Endgate, and other commenters oppose an alternative proposal to establish a power flux density (PFD) rather than require applicants to coordinate frequencies among themselves at their service area boundaries. They argue that LMDS development is in its infancy and it would be difficult to determine a PFD standard to be protective of all LMDS system designs. CellularVision opposes requiring LMDS operators to use active power control and interlock techniques in their systems, which it contends are unnecessary, expensive, and will complicate designs. Next, Endgate opposes our proposal to restrict the use of various signal polarizations and require orthogonally-polarized signals as unnecessary. Further, Endgate opposes our proposal to restrict the maximum equivalent isotropically radiated power (EIRP) at which LMDS systems operate in the 28 GHz band to a -52 dBW/Hz. It opposes any limit less than -18 dBW/Hz and contends that the proposed limit will not provide coverage to justify an LMDS systems economically. CellularVision offers a compromise maximum limit of -35 dBW/Hz, which it argues is sufficient to meet the needs of LMDS subscribers and is conducive to frequency coordination. CellularVision and ComTech also argue that our proposal to adopt a frequency tolerance standard for subscriber transceiver equipment would be too costly.

C. Competitive Bidding Issues

With respect to competitive bidding (para. 303 of the Order), most commenters supported the Commission's proposal to auction LMDS spectrum. M3ITC, however, disagreed and proposed the use of lotteries, expressing a concern that small businesses may lack the financial

ability to participate in the auction, particularly in the major markets. It suggested the imposition of a royalty or other fee on lottery winners to generate revenue in lieu of auctions.

The Commission's proposal to require participants in LMDS auctions to tender to the Commission a substantial upfront payment was generally supported (paras. 328-330 of the Order), but CellularVision and ComTech objected to establishing an upfront payment of \$0.02 per MHz-pop for the largest combination of MHz-pops a bidder anticipates being active on in any single round of bidding, as this would yield an upfront payment of approximately \$20 million for a BTA with one million pops and an upfront payment of approximately \$5 billion for the whole Nation.

The Commission proposed adoption of the transfer disclosure requirements contained in 47 CFR § 1.2111(a) for all LMDS licenses obtained through the competitive bidding process. CellularVision agreed with the Commission's proposal not to limit transfers and assignments of LMDS licenses.

The Commission sought comment on the best way to promote opportunities for businesses owned by minorities and women in light of the Supreme Court's decision in *Adarand Constructors v. Peña*, which held that federal race-based programs are subject to strict scrutiny. Commenters were also asked to document discrimination against such businesses. RioVision argued that the Commission should develop special provisions to provide designated entities with realistic opportunities to participate in the auction process, but RioVision and other commenters failed to supply evidence of discrimination against such businesses (paras. 340-342 of the Order).

The Commission's proposal to establish a small business definition for LMDS and adopt installment payments for small businesses bidding for LMDS licenses met with general approval from commenters. However, CellularVision recommended that the Commission establish a higher limit on average annual gross revenues in its definition of small business, arguing that the proposed limit of \$40 million in average annual gross revenues was too low to help small businesses. The Commission's request for comment on the related issue of reduced upfront payments for small businesses yielded comments from CellularVision and Emc³ in favor of reduced upfront payments for these entities (paras. 344-346 of the Order).

The Commission's proposal to make the unjust enrichment provisions adopted in the Competitive Bidding Second Report and Order³ applicable to installment payments by small business applicants (paras. 344-345 of the Order) received general support, although CellularVision argued against restrictions after the seventh year of the license term. ComTech urged the Commission to adopt transfer rules which would relieve the transferor of any

³ 9 FCC Rcd 2348 (1994).

regulatory or other burdens associated with the newly created license. The Commission's proposal to make available a bidding credit of 25 percent for small businesses and the corresponding imposition of a payment requirement on transfers of such licenses to entities that are not small businesses was supported by commenters M3ITC, Emc³, and CellularVision, the latter encouraging the Commission to consider other regulatory measures, including a small business bidding credit higher than 25 percent. (para. 355 of the Order).

III. Description and Estimate of Small Entities Subject to Rules

The service regulations we adopt to implement LMDS would apply to all entities seeking an LMDS license, including small entities. In addition, the in-region, temporary eligibility restrictions we adopt would apply to qualifying LECs and cable companies. Finally, the rules we adopt to designate additional spectrum for LMDS in the 31.0-31.3 GHz band would apply to all entities providing incumbent services under existing rules for 31 GHz services. We consider these three groups of affected entities separately below.

A. Estimates of Potential Applicants of LMDS

SBA has developed definitions applicable to radiotelephone companies and to pay television services. We are using these definitions that SBA has developed because these categories approximate most closely the services that may be provided by LMDS licensees. The definition of radiotelephone companies provides that a small entity is a radiotelephone company employing fewer than 1,500 persons.⁴ The definition of a pay television service is one which has annual receipts of \$11 million or less.⁵

The size data provided by SBA do not enable us to make an accurate estimate of the number of telecommunications providers which are small entities because it combines all radiotelephone companies with 500 or more employees.⁶ We therefore use the 1992 Census of Transportation, Communications, and Utilities, conducted by the Bureau of the Census, which is the most recent information available. This document shows that only 12 radiotelephone firms

⁴ 13 CFR § 121.201, Standard Industrial Classification (SIC) 4812.

⁵ *Id.*, SIC 4841.

⁶ U.S. Small Business Administration 1992 Economic Census Employment Report, Bureau of the Census, U.S. Department of Commerce, Table 3, SIC 4812 (radiotelephone communications industry data adopted by the SBA Office of Advocacy).

out of a total of 1,178 such firms which operated during 1992 had 1,000 or more employees.⁷ Likewise, the size data provided by SBA do not enable us to make a meaningful estimate of the number of cable and pay television providers which are small entities because it combines all such providers with revenues of \$11 million or less.⁸ We therefore use the 1992 Census of Transportation, Communications, and Utilities (Table 2D), conducted by the Bureau of the Census, which is the most recent information available. This document shows that only 36 of 1,788 firms providing cable and pay television service have a revenue of greater than \$10 million. Therefore, the majority of LMDS entities to provide video distribution and telecommunications services may be small businesses under SBA's definition.

The Commission has not developed a definition of small entities applicable to LMDS licensees, which is a new service being licensed in the Order. The RFA amendments were not in effect until shortly before the *Fourth NPRM* was released, and no data has been received establishing the number of small businesses associated with LMDS. However, in the *Third NPRM* we proposed to auction the spectrum for assignment and requested information regarding the potential number of small businesses interested in obtaining LMDS spectrum, in order to determine their eligibility for special provisions such as bidding credits and installment payments to facilitate participation of small entities in the auction process. In the Order we adopt criteria for defining small businesses for purposes of determining such eligibility. We will use this definition for estimating the potential number of entities applying for auctionable spectrum that are small businesses.

As discussed in Section II.D.2.e. of the Order, we adopt criteria for defining small businesses and other eligible entities for purposes of defining eligibility for bidding credits and installment payments. We define a small business as an entity that, together with affiliates and controlling principals, has average gross revenues not exceeding \$40 million for the three preceding years (paras. 345 and 348 of the Order). Additionally, bidding credits and installment payments are available to applicants that, together with affiliates and controlling principals, have average gross revenues for the three preceding years of more than \$40 million but not more than \$75 million (paras. 349 and 358 of the Order).

SBREFA was not in effect until the record in the *Third NPRM* closed, and we did not seek comment on the potential number of prospective applicants for LMDS that might qualify as small businesses. Therefore, we are unable to predict accurately the number of applicants for

⁷ U.S. Bureau of the Census, U.S. Department of Commerce, 1992 Census of Transportation, Communications, and Utilities, UC92-S-1, Subject Series, Establishment and Firm Size, Table 5, Employment Size of Firms: 1992, SIC 4812 (issued May 1995).

⁸ *Id.*, SIC 4841.

LMDS that would fit the definition of a small business for competitive bidding purposes. However, using the definition of small business we adopted for auction eligibility, we can estimate the number of applicants that are small businesses by examining the number of applicants in similar services that qualified as small businesses. For example, MDS authorizes non-common carrier services similar to what may be developed through LMDS. The MDS rules provide a similar definition of a small business as an entity that, together with its affiliates, has annual gross revenues for the three preceding years not in excess of \$40 million.⁹ A total of 154 applications were received in the MDS auction, of which 141, or 92 percent, qualified as small businesses.

We plan to issue 2 licenses for each of the 492 BTAs, excluding New York, that are the geographic basis for licensing LMDS. Thus, 984 licenses will be made available for authorization in the LMDS auction. Inasmuch as 92 percent of the applications were received in the MDS auction were from entities qualifying as small businesses, we anticipate receiving at least the same from LMDS applicants interested in providing non-common carrier services.

There is only one company, CellularVision, that is currently providing LMDS video services. Although the Commission does not collect data on annual receipts, we assume that CellularVision is a small business under both the SBA definition and our proposed auction rules.

B. Estimates of LECs and Cable Companies Ineligible Under the Temporary, In-Region Eligibility Restriction

1. Local Exchange Carriers

Neither the Commission nor the SBA has developed a definition for small providers of local exchange services (LECs). The closest applicable definition under the SBA rules is for telephone communications companies other than radiotelephone (wireless) companies.¹⁰ The most reliable source of information regarding the number of LECs nationwide of which we are aware appears to be the data that we collect annually in connection with the *TRS Worksheet*. According to our most recent data, 1,347 companies reported that they were engaged in the

⁹ Amendment to Parts 21 and 74 of the Commission's Rules with Regard to Filing Procedures in the Multipoint Distribution Service and in the Instructional Television Fixed Service, MM Docket No. 94-131, and Implementation of section 309(j) of the Communications Act - Competitive Bidding, PP Docket No. 93-253, Report and Order, 10 FCC Rcd 9589 (1995).

¹⁰ 13 CFR § 121.201, SIC 4813.

provision of local exchange services.¹¹ Although it seems certain that some of these carriers are not independently owned and operated, or have more than 1,500 employees, we are unable at this time to estimate with greater precision the number of LECs that would qualify as small business concerns under SBA's definition. Consequently, we estimate that there are fewer than 1,347 small incumbent LECs.

Because the small incumbent LECs subject to these rules are either dominant in their field of operations or are not independently owned and operated, consistent with our prior practice, they are excluded from the definition of "small entity" and "small business concerns."¹² Accordingly, our use of the terms "small entities" and "small businesses" does not encompass small incumbent LECs.¹³ Out of an abundance of caution, however, for regulatory flexibility analysis purposes, we will consider small incumbent LECs within this analysis and use the term "small incumbent LECs" to refer to any incumbent LECs that arguably might be defined by SBA as "small business concerns."

2. Cable Services or Systems

The SBA has developed a definition of small entities for cable and other pay television services, which includes all such companies generating \$11 million or less in revenue annually.¹⁴ This definition includes cable systems operators, closed circuit television services, direct broadcast satellite services, multipoint distribution systems, satellite master antenna systems and subscription television services. According to the Census Bureau, there were 1,788 total cable and other pay television services and 1,423 have \$11 million or less in revenue.¹⁵

The Commission has developed its own definition of a small cable system operator for the purposes of rate regulation. Under the Commission's Rules, a "small cable company," is one

¹¹ Federal Communications Commission, Common Carrier Bureau, Industry Analysis Division, *Telecommunications Industry Revenue: TRS Fund Worksheet Data*, Tbl. 1 (Average Total Telecommunications Revenue Reported by Class of Carrier) (Dec. 1996) (*TRS Worksheet*).

¹² See Implementation of the Local Competition Provisions in the Telecommunications Act of 1996, First Report and Order, 11 FCC Rcd 15499 (1996), *motion for stay pending judicial review denied*, Implementation of the Local Competition Provisions in the Telecommunications Act of 1996, Order, 11 FCC Rcd 11754 (1996), *partial stay granted*, Iowa Utilities Board v. F.C.C., No. 96-3321, 1996 WL 589204 (8th Cir. 1996), paras. 1328-1330, 1342.

¹³ See *id.* at para. 1342.

¹⁴ 13 CFR § 121.201, SIC 4841.

¹⁵ 1992 Economic Census Industry and Enterprise Receipts Size Report, Table 2D, SIC 4841 (U.S. Bureau of the Census data under contract to the Office of Advocacy of the U.S. Small Business Administration).

serving fewer than 400,000 subscribers nationwide.¹⁶ Based on our most recent information, we estimate that there were 1,439 cable operators that qualified as small cable system operators at the end of 1995.¹⁷ Since then, some of those companies may have grown to serve over 400,000 subscribers, and others may have been involved in transactions that caused them to be combined with other cable operators. Consequently, we estimate that there are fewer than 1,439 small entity cable system operators.

The Communications Act also contains a definition of a small cable system operator, which is "a cable operator that, directly or through an affiliate, serves in the aggregate fewer than 1 percent of all subscribers in the United States and is not affiliated with any entity or entities whose gross annual revenues in the aggregate exceed \$250,000,000."¹⁸ The Commission has determined that there are 61,700,000 subscribers in the United States. Therefore, we found that an operator serving fewer than 617,000 subscribers shall be deemed a small operator, if its annual revenues, when combined with the total annual revenues of all of its affiliates, do not exceed \$250 million in the aggregate.¹⁹ Based on available data, we find that the number of cable operators serving 617,000 subscribers or less totals 1,450.²⁰ We do not request nor do we collect information concerning whether cable system operators are affiliated with entities whose gross annual revenues exceed \$250,000,000,²¹ and thus are unable at this time to estimate with greater precision the number of cable system operators that would qualify as small cable operators under the definition in the Communications Act.

We find that the definition of small entities developed by SBA includes categories of services that are not included in LMDS, such as satellite master antenna systems. Thus, the estimated figure that 1,423 cable systems are small businesses that would be affected by our rule would be an overstatement. There is no other definition for us to use, since none has been developed for cable systems limited to LMDS-type services. Moreover, there is no harm in

¹⁶ 47 CFR § 76.901(e). The Commission developed this definition based on its determination that a small cable system operator is one with annual revenues of \$100 million or less. Implementation of Sections of the 1992 Cable Act: Rate Regulation, Sixth Report and Order and Eleventh Order on Reconsideration, 10 FCC Rcd 7393 (1995).

¹⁷ Paul Kagan Associates, Inc., *Cable TV Investor*, Feb. 29, 1996 (based on figures for December 30, 1995).

¹⁸ 47 U.S.C. § 543(m)(2).

¹⁹ 47 CFR § 76.1403(b).

²⁰ Paul Kagan Associates, Inc., *Cable TV Investor*, Feb. 29, 1996 (based on figures for December 30, 1995).

²¹ We do receive such information on a case-by-case basis only if a cable operator appeals a local franchise authority's finding that the operator does not qualify as a small cable operator pursuant to Section 76.1403(b) of the Commission's Rules. See 47 CFR § 76.1403(d).

relying on the SBA number, which overestimates rather than underestimates potential cable systems that might be affected.

C. Estimates of Incumbent Services in 31 GHz Band

We proposed in the *Fourth NPRM* to designate the 31 GHz band for LMDS, on a primary protected basis, and requested comment on how to accommodate incumbent licensees, which are not protected from harmful interference under their licenses. In the IRFA, we estimated the number of small entities to which the proposed rule would apply based on the number of incumbent licensees in the 31 GHz band that are governmental entities. We stated there are 27 incumbent licensees and that a total of 25 or 26 are small entities. Our adjustment was based on the requirement that we estimate the number of governmental entities with populations of less than 50,000 that would be affected by our new rules.²² We then applied the Census Bureau ratio that 96 percent of all counties, cities, and towns in the Nation have populations of fewer than 50,000.²³ We requested comment in the IRFA on the number of small entities significantly impacted by our proposed designation of 31 GHz for LMDS.

We address SBA's comments in paras. 44-46 of the Order, where we agree that we did not reflect the correct number of total licensees in the 31 GHz band. We consider the lists of licensees and users submitted by Sunnyvale and Sierra, which we find include duplicates and several users that are not licensed. Based on a review of our database, we found there are a total of 86 licensees for 31 GHz services under the current rules. We found that licensees fall into three categories of services, as follows: (1) governmental entities using the band primarily for traffic control systems; (2) cellular and other communications companies providing LTTS; and (3) private business users.

Of the total licensees, 59 licensees are LTTS licensees, 8 are private business users, and 19 are governmental entities. Of the 19 governmental entities, 14 are municipalities and the remainder are counties or states. The cities appear small in size, except for the Cities of Charlotte, San Diego, and Topeka. Thus, the correct number of small governmental entities that are licensees in the 31 GHz services should be 11 or less, rather than the 26 or 27 we stated in the IRFA. As for the entire number of licensees that qualify as small entities, we cannot determine from the remaining 59 LTTS licensees or 8 private business licensees which are small. Many of the LTTS licensees are not small, such as MCI or Bell Atlantic New Jersey, Inc. Nevertheless, to ensure that no small interests are overlooked, we will assume that most of these

²² See 5 U.S.C. § 601(5).

²³ See 1992 Census of Governments, Bureau of the Census, U.S. Department of Commerce.

are small licensees and, together with the 11 small governmental entities, will consider at least 50 of all 86 licensees to be small entities.

IV. Summary of Projected Reporting, Recordkeeping, and Other Compliance Requirements

The Order adopts a number of rules that will entail reporting, recordkeeping, and third party consultation. We find that these requirements are the minimum needed to ensure the integrity and efficiency of LMDS licensing and serve the public interest, as reflected in this record.

In designating the 31 GHz band for LMDS, we adopt in the Order a band-sharing plan that designates the two outer 75 megahertz segments for non-LTTS incumbent licensees to be protected from harmful interference from LMDS. We adopt technical rules that require LMDS licensees to coordinate frequencies with incumbent licensees. We adopt a procedure to allow non-LTTS incumbent licensees in the middle 150 megahertz segment that is not protected to relocate to the outer segments within 15 days after the effective date of the Order and to file an application to modify their licenses to reflect the new frequencies (paras. 91-92 of the Order). Relocation and protection are accorded to all incumbents except LTTS, which are temporary services that operate on a secondary basis and in any band, so that the protections would not benefit them. Many of the non-LTTS incumbent licensees are small entities. We find that the relocation and coordination process we have established does not impose undue cost burdens and we believe it is administratively manageable. Moreover, we have found that while relocation of such incumbents to adjacent bands will involve some costs for adjusting equipment, we do not expect at this time that such costs will impose an undue burden on small incumbents.

We limit the eligibility of incumbent LECs and cable companies to hold the larger license of 1,150 megahertz in each BTA for LMDS. They are barred (for a period of three years from the effective date of LMDS rules) from holding an attributable interest in such a license in the service area in which they operate. We adopt rules similar to the CMRS spectrum cap that defines in-region if 10 percent or more of the population of the BTA is within the applicant's service area. We adopt attribution rules that apply when an ownership interest is at least 20 percent. However, we permit incumbent LECs and cable companies to participate fully in the auction of any in-region license, so long as they come into compliance after conclusion of the auction. We require such LMDS licensees to divest overlapping ownership interests by selling their existing system or by partitioning within 90 days after the grant of their license. We find that these requirements should not affect many small entities, which are not likely to be incumbents LECs or cable companies. These requirements may also create opportunities for small businesses who wish to bid for LMDS licenses and compete in the LMDS market.

We adopt a number of service rules to initiate LMDS under procedures for licensing and filing applications, conducting operations, and establishing technical parameters. Applicants are required to submit a completed FCC Form 175. Auction winners are required to file a completed FCC Form 600. All applications are submitted for 30-day public notice and applicants are required to keep FCC Form 600 up-to-date concerning all of the foreign ownership information requested on the form. Licensees may change status between common carriage and non-common carriage or add an additional status to conduct both operations upon notification to the Commission that does not require prior approval. However, common carriers discontinuing or reducing operations must adhere to statutory notification requirements imposed in Part 63 of the Commission's Rules.

We adopt limited technical regulations. We impose a coordination process on each LMDS licensee prior to initiating service in the 27.5-28.35 GHz band in which each adjacent LMDS licensee and each potentially-affected, adjacent-channel FSS licensee must provide values for the appropriate operational parameters. Coordinating parties must supply information related to their channelization and frequency plan, receiver parameters, and system geometry. Coordination between adjacent LMDS systems need only encompass hubs located within 20 kilometers of BTA boundaries. We would resolve any conflicts between licensees. LMDS licensees in the two outer segments of the 31 GHz band also must coordinate with non-LTTS incumbent licensees to protect those licensees from harmful interference. In some cases, the services of persons with technical or engineering expertise may be required to assist with the coordination information.

We are directed by Section 309(j)(4)(E) of the Communications Act to ``require such transfer disclosures and anti-trafficking restrictions and payment schedules as may be necessary to prevent unjust enrichment as a result of the methods employed to issue licenses and permits.¹²⁴ The Commission adopted safeguards designed to ensure that the requirements of this section are satisfied, including a transfer disclosure requirements for licenses obtained through the competitive bidding process for LMDS. An applicant seeking approval for a transfer of control or assignment of a license within three years of receiving a new license through competitive bidding procedures must, together with its application for transfer of control or assignment, file with the Commission a statement indicating that its license was obtained through competitive bidding. Such applicant must also file with the Commission the associated contracts for sale, option agreements, management agreements, or other documents disclosing the total consideration that the applicant would receive in return for the transfer or assignment of its license.

²⁴ 47 U.S.C. § 309(j)(4)(E).

With respect to small businesses, we have adopted unjust enrichment provisions to deter speculation and participation in the licensing process by those who do not intend to offer service to the public, or who intend to use the competitive bidding process to obtain a license at a lower cost than they would otherwise have to pay and to later sell it at a profit, and to ensure that large businesses do not become the unintended beneficiaries of measures meant to help small firms. Small business licensees seeking to transfer their licenses to entities which do not qualify as small businesses, or entities with more than \$40 million but not more than \$75 million in average gross revenues for the three preceding years that seek to transfer their licenses to larger entities, as a condition of approval of the transfer, must remit to the government a payment equal to a portion of the total value of the benefit conferred by the government.

V. Significant Alternatives to Proposed Rules Which Minimize Significant Economic Impact on Small Entities and Accomplish Stated Objectives

We modify a number of our proposals in the *Third NPRM* and *Fourth NPRM* to minimize any significant economic impact on small entities consistent with the objectives of the Order based on the comments we have received in this proceeding.

A. Alternatives To Minimize Impact of Redesignation of 31 GHz for LMDS

Specifically, we decided that LMDS needed the additional 300 megahertz of spectrum at 31 GHz in order to obtain the 1 gigahertz of unencumbered spectrum for broadband services and sufficient spectrum to experiment with services and technology that competes with telephone and cable operators. We deny requests from CellularVision and other commenters to consider an alternative allocation to spectrum below 27.5 GHz or the request from ICE-G to consider allocation to the 40 GHz band. We considered these matters in the *First Report and Order* and their availability has not changed since then.

Among the alternatives, we decide that co-existence of incumbent 31 GHz licensees with LMDS would not be possible because incumbents would be reduced to a secondary status if LMDS were accorded primary protected status and the interference from LMDS would render such services useless. We agree with CellularVision that incumbents could lease or otherwise arrange to continue to use redesignated spectrum, but find that incumbents cannot rely on these arrangements as a reasonable alternative to minimize the impact. We also decide that movement to another band such as 23 GHz that provides protection for incumbent services is not feasible because of the major costs to incumbents to modify or replace equipment.

We decide that the plans submitted by CellularVision and Sierra to share the 31 GHz band establish a framework for us to reach a compromise based on the needs of both LMDS and

31 GHz proponents and adopt an outcome that is more equitable and balanced. We decide to segment the 300 megahertz for establishing protections based on the enumerations used by Sierra. Under this plan, the middle 150 megahertz is designated for LMDS on a primary protected basis and incumbent licensees are not granted protection from harmful interference. At each end of the band, a segment of 75 megahertz each is designated for protection of non-LTTS incumbent licensees from LMDS to enable them to continue existing operations. We decide that the plan of CellularVision to increase the middle segment to 250 megahertz on a primary protected basis and leave incumbents protected in only 25 megahertz at each end would not accommodate traffic signal technology at intersections and would be too costly. We decide that LMDS requires no more than 150 megahertz of unencumbered spectrum in the middle.

We do not adopt Sierra's limitations on LMDS use or access of the entire 31 GHz band. We agree with CellularVision and other comments that the benefits to according LMDS access to the entire band and to allowing the full array of LMDS services can be achieved while according the protections that non-LTTS incumbent licensees need to continue their operations. Thus, we accord LMDS a protected status throughout the band, but require LMDS in return to protect non-LTTS existing services in the outer segments. We do not agree with CellularVision that incumbents should be excluded altogether from the middle segment, inasmuch as LMDS has primary status there and is protected from harmful interference there.

To accommodate incumbents, we permit them to relocate to the outer segments and adopt a procedure that requires them to file an application to modify their licenses within 15 days after the rules adopted in the Order take effect, if they choose to relocate. Under our current rules, any 31 GHz licensee filing a modification application in accordance with the Order will be able to implement license changes any time during the 18-month period after the Commission grants the modification.²⁵ Moreover, because the incumbents are not authorized to provide service on a common carriage basis, their modification applications are not subject to the public notice and petition to deny requirements of Section 101.37 of the Commission's Rules. Thus, applications for modification of an incumbent's license under the relocation procedure would be expedited.

We find that relocation within the band gives existing 31 GHz licensees a reasonable opportunity to continue their operations with a minimum of expense and disruption. We decide not to include LTTS licensees for protection in the outer segments nor permit them to relocate, but to leave their status unchanged because of the nature of their services. These decisions are discussed more fully at paras. 85-93 of the Order.

²⁵ See Section 101.63(a) of the Commission's Rules, 47 CFR § 101.63(a).

We decide to limit the band-sharing plan to achieve protections for existing 31 GHz non-LTTS licensees in order to minimize the impact of our objective of implementing LMDS in 31 GHz on existing traffic control systems provided by small municipalities and other governmental entities. Commenters, including Palm Springs, demonstrate that public funds have been expended that would be wasted if incumbents were not protected and that these systems help control traffic and air pollution in furtherance of Federal goals. However, we decide not to allow future licensing under the existing rules and to limit incumbent licensees to their existing operations. We carefully consider the advantages and disadvantages of future growth under such rules, and conclude that it would be inconsistent with our objective to permit the licensing of LMDS on 31 GHz in order to meet the consumer demand for those telecommunications and video services it will provide.

We decide to permit incumbent licensees to renew and to modify their licenses to the extent they are not expanding service. As a result, the plans of Palm Springs and other licensees to expand existing operations under current rules cannot be achieved. The impact on small entities would not be extensive, inasmuch as we have shown that all incumbents are few in number and engaged in short-range services, as compared with the potential harm to LMDS development if the entire 31 GHz spectrum were not available and was encumbered by changing, incompatible, localized services.

Because we do not permit the licensing of new 31 GHz services, we find the dismissal of all pending applications to be consistent with our objectives. As we noted in para. 100 of the Order, we have concluded that it is in the public interest to dismiss the pending applications. Moreover, a review of our database indicates that all pending applications were filed after the release date of the *Fourth NPRM* and by new applicants not currently licensed. Thus, these applicants were on notice that we were considering a change in our rules for the 31 GHz band. To the extent any of these applicants are small entities, the impact would not be considerable because they have not invested fully in such new systems and alternative spectrum or options to gain access to 31 GHz is available, such as leasing from LMDS licensees.

B. Alternatives To Minimize Impact of LMDS Service Rules

To accommodate concerns expressed by Ad Hoc RTG and others about our proposal to license LMDS as a single block of the 28 GHz and 31 GHz spectrum, we decided to auction two licensees of different sizes for each BTA. We considered the band-segmentation plan we adopted for protecting non-LTTS incumbent licensees in 31 GHz and the comments of LMDS proponents that 150 megahertz is viable for certain LMDS services. We decide to issue one license for 1,150 megahertz, consisting of 1,000 megahertz located in the 28 GHz band and 150 megahertz in the middle of the 300 megahertz located in the 31 GHz band. We also will issue a smaller license for 150 megahertz consisting of the two 75 megahertz segments located at each end of the 300 megahertz block in 31 GHz. The small license can be acquired by LMDS to

achieve the objectives of the broadest spectrum for its experimentation, or may be used by incumbent licensees to accommodate their needs to continue using the 31 GHz band on a protected basis or by small entities such as rural interests to develop niche markets or provide more economical narrower bandwidth services. We have decided to establish a 1,150 megahertz license because we believe that a large block of unencumbered spectrum will provide LMDS providers with an opportunity to compete with broadband services and develop two-way services.

We decide that our proposal to license LMDS based on BTA geographic service areas is the most logical area for LMDS. We decline to use the smaller MSAs and RSAs requested by M3ITC and other commenters because their areas are smaller than existing video programming and telephony service areas and their use might result in unnecessary fragmentation of natural markets. BTAs ensure that the wide array of LMDS services can be provided, afford greater economies of scale, and vary in size to afford building blocks for establishing an LMDS system. We do not restrict the number of BTAs a licensee may acquire at auction, but also point out that the varying sizes provide more opportunities for smaller businesses to enter the market.

We decide that our proposal for disaggregating spectrum and allowing the geographic partitioning of an LMDS licensed area would benefit small business and allow some areas, such as rural areas, to be served more readily (para. 145 of the Order).

We agree with WebCel and other small entities to adopt our proposal to restrict eligibility of incumbent LECs and cable companies and decide that they may not acquire the larger LMDS license of 1,150 megahertz in their geographic service areas for three years. We find that such firms would not need the small license for unencumbered service and thus would not have the incentive to hobble competition. We do not adopt the request of SkyOptics and CVTT for permanent ineligibility to protect smaller entities, because they can bid for the smaller license and the 3-year period may be sufficient to allow new entrants to become established. We do not agree with commenters from the rural telephone community that argue against any restrictions on LEC ownership of LMDS licenses. We find our restrictions should not hinder LMDS in rural areas, because they do not have the overlap that triggers our restriction and they can acquire spectrum from an LMDS licensee through contract or partitioning and disaggregation. We modify our proposal to define in-region incumbent LECs or cable companies to reflect the same provisions in the CMRS spectrum cap. This ensures consistency in our rules for wireless services for ease of compliance and efficiency.

In adopting application procedures for LMDS, we agree with CellularVision and other small entities to adopt a broad service definition that allows the LMDS provider to provide any fixed microwave service, whether common or non-common carrier. We expand our proposal to allow an applicant or licensee to apply for both common and non-common authorization in the same license, depending on the services it seeks to provide. We clarify the effect of the

Telecommunications Act of 1996 on the nature of the video programming and telecommunications services that we originally identified as potential services in LMDS to assist applicants and licensees in determining the regulatory status to govern their operations. We agree with commenters to not apply the presumption we proposed to treat LMDS as common carriage.

By authorizing both common and non-common carrier service in a single license, we eliminate the burden in our proposed procedures that would require a licensee to submit an application whenever it sought to change its services between common and non-common carrier services. We decide this achieves economies in the licensing process, ensures the flexibility licensees need to provide the full array of LMDS offerings, and promotes the development of the services that may compete with existing telecommunications and video programming services. To ensure that applicants or licensees are in compliance with the statutory requirements imposed on common carriers and reflected in the Part 101 rules that govern LMDS, we decide to subject all LMDS applications to the 30-day public notice provisions and require all applicants to submit information in response to all the alien ownership eligibility restrictions. Consequently, we can rely on a simplified procedure for licensees to notify us of any change in their regulatory status, either by changing or adding common carrier or non-common carrier status, through notification by application after the change is implemented, unless the change results in the impairment of a common carrier service that requires prior approval under the discontinuance rules. These procedures are adopted to ensure implementation of LMDS under a simplified format.

For the technical rules, we agree with commenters to use the prior frequency coordination procedures rather than a service area boundary PFD limit, which could stifle technology and inhibit flexibility in system design. We decide to adopt uniform polarization to achieve greater system efficiency. We disagree with CellularVision and ComTech that adopting a frequency stability standard would be costly, but find that it aids in coordinating usage to assist the rapid development of service.

C. Alternatives To Minimize Impact of LMDS Auction Rules

We decline to adopt the use of lotteries in lieu of auctions. We conclude that auctioning LMDS licenses would further the Communications Act's objectives: first, by speeding the development and deployment of this new technology, products and services to the public with minimal administrative or judicial delay, and encouraging efficient use of the spectrum; second, by fostering economic opportunity and the distribution of licenses among a wide variety of applicants, including small businesses; and, third, by enabling the public to recover a portion of the value of the public spectrum. Concerns regarding small businesses having the financial ability to participate in LMDS auctions are addressed by the special provisions adopted for small businesses. We also decline to adopt Public Television's suggestion of a set-aside of spectrum for educational purposes.

We adopt a uniform upfront payment for all applicants for LMDS auctions, and decide not to adopt a reduced down payment for small businesses, because we believe that this action is consistent with our reason for requiring upfront payments, *i.e.*, to deter insincere and speculative bidding and to ensure that bidders have the financial capacity to build out their system. We delegate authority to the Wireless Telecommunications Bureau to determine an appropriate calculation for the upfront payment, which the Bureau will announce by Public Notice. The Bureau will take into consideration CellularVision's and ComTech's objection to the proposed formula of \$0.02 per MHz-pop for the largest combination of MHz-pops a bidder anticipates being active on in any single round of bidding.

Because we believe the record with regard to past discrimination, continuing discrimination, and other significant barriers experienced by minorities and women is insufficient to support race- and gender-based competitive bidding provisions under the standards of judicial review applicable to such provisions, we do not adopt such provisions. Instead, we adopt race- and gender-neutral provisions such as installment payments and bidding credits for small businesses in order to provide small businesses with an opportunity to obtain LMDS licenses. Many minority- and women-owned entities are small businesses and will therefore qualify for these same special provisions.

CellularVision recommended a definition of small business with a ceiling of \$100 million in annual gross revenues. We choose, for the purposes of LMDS auctions, to define a small business as an entity that, together with affiliates and controlling principals, has average gross revenues not exceeding \$40 million for the three preceding years. To address CellularVision's concerns, we also adopt bidding credits and installment payments for LMDS applicants that, together with affiliates and controlling principals, have average gross revenues for the three preceding years of more than \$40 million but not more than \$75 million, as elaborated in paras. 346-348 of the Order.

Emc³ and CellularVision proposed a small business bidding credit of 25 percent or more. The rules adopted in the Order provide a 25 percent bidding credit for small business applicants in the LMDS auctions, and a 15 percent bidding credit for entities with average gross revenues of more than \$40 million but not exceeding \$75 million. Commenters who advocated higher credits offered no data upon which to base such credits. We also decline to offer a bidding credit to commercial entities that set aside part of their capacity for educational institutions at preferential rates. We do not believe that we have an adequate record regarding the legal and policy implications of such credits.

VI. Report to Congress

We will submit a copy of this Final Regulatory Flexibility Analysis, along with the Order, in a report to Congress pursuant to 5 U.S.C. § 801(a)(1)(A). A copy of this FRFA will also be published in the Federal Register.

APPENDIX E**List of Pleadings****First Notice of Proposed Rulemaking**
Comments

Acor, Everett T., Jr.
Alex, Brown & Sons
Alpha Industries, Inc.
Amby, Faith C.
America's Public Television Stations, Public Broadcasting Service, Organization of State Broadcasting Executives and Southern Educational Communications Association
Ameritech
Anchorage Telephone Utility
Baderwood International, Inc.
Bell Atlantic Corporation, *et al.* (Bell Atlantic)
BellSouth Corporation, *et al.* (BellSouth)
Box Springs Educators
Calling Communications Corporation
Cardiff Broadcasting Company
Caribbean Communications Corporation d/b/a St. Thomas-St. John Cable TV
Carney, Joseph D. & Associates
Catel Telecommunications
Cellular Television Associates, Inc.
Coalition for Wireless Cable
Cole, Raywid & Braverman
Competitive Cable Association
Cyrus Partnership
Dataflow Systems
Digital Microwave Corporation (DMC)
Eagle Engineering & Communications Group, Inc.
Educational Parties (filing jointly): American Council on Education, Board on Distance Education and Telecommunications of the National Association of State Universities and Land Grant Colleges, Instructional Telecommunications Consortium of the American Association of Community Colleges, Western Cooperative for Educational Telecommunications, Arizona Board of Regents for the Benefit of the University of Arizona, California State University, Alliance for Higher Education, Iowa Public Broadcasting Board, University of Maine at Augusta, University of Washington, University of Wisconsin System, Washington State University, South Carolina Educational Television Commission and Ana G. Mendez Educational Foundation
EMI Communications Corporation

Foresight Communications
GHz Equipment Company, Inc. (GEC)
Gilio, Robin V.
GTE Service Corporation (GTE)
Guy, Frederick R.
Haddon, Perry W.
Hornby, Harold
Hughes Space and Communications Co. and Hughes Network Systems, Inc.
Joplin Beepers, Inc.
King Broadcasting Associates
Kingswood Associates
Linz, Robert M., P.E.
Levin, Michael H.
Loral/Qualcomm Partnership, L.P. (Loral/Qualcomm)
M3 Illinois Telecommunications Corporation (M3ITC)
M/A-Com, Inc. (M/A-Com)
Metrocom Telecasting
Mettler Communications, Inc.
Milani, Patricia B.
Motorola, Inc.
Motorola Satellite Communications, Inc. and Iridium, Inc. (Motorola)
Multi-Micro, Inc.
National Aeronautic and Space Administration (NASA)
National Association for the Advancement of Colored People
National Captioning Institute
New York Department of Public Service
Norris Satellite Communications, Inc.
NYNEX Mobile Communications Company
Pacific Telesis Group, Pacific Bell and Nevada Bell
RioVision of Texas, Inc. (RioVision)
Rochester Telephone Corporation
Rock Hill Telephone Company, Fort Mill Telephone Company and Lancaster
Telephone Company
RSW Communications, Ltd.
Rumore, Victor
Seiter, Steven P.
Senvista General Partnership
Sprint Corporation on behalf of Sprint Communications Company, L.P. and the United and
Central Companies (Sprint)
Stephenson, Todd
Subscriber TV Partners

Suite 12 Group
Technology Engineering Company
Telephone and Data Systems, Inc. (TDS)
Total TV, Inc.
United States Telephone Association (USTA)
University of California
University of Colorado
University of Texas System
US West, Inc. (US West)
Utilities Telecommunications Council
Video/Multipoint, Inc.
Video/Phone Systems, Inc. (Video/Phone)
Virginia Communications, Inc.
Western Sierra Bancorp
Wireless Cable Association International, Inc. (WCA)
Wireless Cable, Ltd.

Reply Comments

Anchorage Telephone Utility
Bell Atlantic
Calling Communications Corporation
Coalition for Wireless Cable
Cole, Raywid & Braverman
Comcast Corporation, Jones Intercable, Inc. and Cablevision Industries Corporation
DMC
Eagle Engineering & Communications Group, Inc.
GEC
GTE
Hughes Space and Communications Co.
Leaco Rural Telephone Company
M3ITC
Motorola, Inc.
Motorola
NASA
National Association of Regulatory Utility Commissioners (NARUC)
National Council of LaRaza
New York Department of Public Service
Public Broadcasting Service
RioVision
Rumore, Victor

Seiter, Steven P.
Senvista General Partnership
Sprint
Suite 12 Group
TDS
Thomas & Associates
Video/Phone
USTA
WCA

Third Notice of Proposed Rulemaking

Comments

Airtouch Communications, Inc. (Airtouch)
Alcatel Network Systems, Inc. (Alcatel)
Ameritech
Andrew Corporation (Andrew Corp.)
Association of America's Public Television Stations and Public Broadcasting Service (PTV) Bell
Atlantic
BellSouth
Boeing
CellularVision USA, Inc. (CellularVision)
ComTech Associates, Inc. (ComTech)
Constellation Communications, Inc. (Constellation)
Cox Enterprises Inc., *et al.* (Cox)
DMC
Duncan Weinberg Miller & Pembroke, P.C. (Duncan)
Endgate
Entertainment Made Convenient International, Inc. (Emc³)
GE American Communications, Inc. (GE)
GEC
GTE
Harris Corporation-Farinon Division (Harris)
Hewlett-Packard Company (HP)
Hughes Communications Galaxy, Inc. (Hughes)
Lockheed Martin Corporation (LMC)
Loral Aerospace Holdings, Inc. (Loral)
Loral/Qualcomm
M3ITC
Motorola

NASA
National Cable Television Association (NCTA)
Northern Telecom, Inc. (Nortel)
NYNEX Corporation (NYNEX)
Orion Network Systems, Inc. (Orion)
Pacific Telesis Wireless Broadband Services (PTWBS)
Panamsat Corporation (Panamsat)
RioVision
Satellite Industry Association (SIA)
Summit Communications, Inc. (SCI)
Telecommunications Industry Association (TIA)
Teledesic Corporation (Teledesic)
TDS
Texas Instruments, Inc. (TI)
Titan Information Systems Corporation (Titan)
TRW, Inc. (TRW)
WCA

Reply Comments

Bell Atlantic
BellSouth
CellularVision
ComTech
Emc³
GE
GEC
Hon. Mark Hatfield
Hughes
Loral
Loral/Qualcomm
Motorola
NetSat 28 Company, L.L.C. (NetSat)
NYNEX
Orion
PTWBS
SCI
TIA
Teledesic
TI
TRW

Fourth Notice of Proposed Rulemaking**Comments**

Ad Hoc Rural Telecommunications Group (Ad Hoc RTG)
Allied Associated Partners and GELD Information Services (Allied/GELD)
Ameritech
PTV
Bell Atlantic Corporation and SBC Communications, Inc. (Bell Atlantic/SBC)
BellSouth
CellularVision
CellularVision Technology and Telecommunications, L.P. (CVTT)
City of Long Beach (Long Beach)
City of San Diego (San Diego)
City and County of Honolulu (Honolulu)
City of Palm Springs (Palm Springs)
City of Topeka (Topeka)
Competition Policy Institute (CPI)
Comstat Communications, Inc. (Comstat)
ComTech
Endgate
Farmers Telephone Cooperative, Inc. (Farmers Tel)
GE
HP
Hughes
ICE-G, Inc., dba International Communications Electronics Group (ICE-G)
Institute of Transportation Engineers (ITE)
Japan, Government of (Japan)
LMC
M/A-Com
MCI Communications Corporation (MCI)
Mobile Source Air Pollution Review Committee (MSAPRC)
NCTA
National Telephone Cooperative Association (NTCA)
Opportunities Now Enterprises (ONE)
Pacific Telesis Group
Pioneer Telephone Association, Inc. (Pioneer)
Puerto Rico Telephone Company (PRTC)
RioVision
Roseville Telephone Company (Roseville)
Sierra Digital Communications, Inc. (Sierra)
Skyoptics, Inc. (Skyoptics)

Sunnyvale General Devices and Instruments, Inc. (Sunnyvale)
TI
USTA
US West
Webcel Communications, Inc. (Webcel)
WCA

Reply Comments

Ad Hoc RTG
Ameritech
Attorneys General of Connecticut, Delaware, Florida, Idaho, Illinois, Iowa, Massachusetts,
Minnesota, Missouri, New York, Oklahoma, Pennsylvania, Rhode Island, Virginia,
Washington, West Virginia, and Wisconsin (Attorneys General)
CellularVision
Comcast Corporation (Comcast)
CPI
Endgate
Federal Trade Commission (FTC)
GE
HP
Hughes
ICE-G
Independent Alliance (Alliance)
International Municipal Signal Association (IMSA)
M/A-Com
Midwest Wireless Communications, L.L.C. (Midwest)
Motorola
NCTA
NYNEX
Organization for the Protection and Advancement of
Small Telephone Companies (OPASTCO)
Public Service Telephone Company (Public Service Telco)
PTV
Sierra
Small Business Administration (SBA)
Sunnyvale
TI
Titan
United States Department of Justice (DOJ)
USTA

US West
Webcel

Petitions for Reconsideration of Waiver Application Denials

Alliance Associates
Birnbaum, Stevan (Birnbaum)
BMW Associates (BMW)
Buchwald, Joseph B. (Buchwald)
Celltel Communications Corporation (Celltel)
Chester, Linda (Chester)
City of Gustine, California (Gustine)
Clark, Thomas F. (Clark)
Committee to Promote Competition in the Cable Industry (CPCCI)
Connecticut Home Theater Corporation (CHT)
Cornblatt, Arnold (Cornblatt)
CT Communications Corporation (CTC Corp)
Evanston Transmission Company (Evanston)
Feinberg, Judy (Feinberg)
Fraiberg, Lawrence (Fraiberg)
Freedom Technologies, Inc. (FTI)
GEC
Goldberg, Rosalie Y. (Goldberg)
Hall, Harry A. (Hall)
L.D.H. International, Inc. (LDH)
Hascoe, Lloyd (Hascoe)
Likins, Paul R. (Likins)
Lonergan, William (Lonergan)
M3ITC
Meeker, Herbert S. (Meeker)
Melcher, James L. (Melcher)
Myers, Frederick (Myers)
Northeast Wireless, High Band Broadcasting Corp., FM Video Broadcasters and Western
Sierra Bancorp (Joint Petitioners)
Peysen, Frederick M. (Peysen)
PMJ Securities, Inc. (PMJ)
Robert E. La Blanc Associates, Inc. (La Blanc)
Robertson, Jeanne P. (J. Robertson)
Robertson, Sanford B. (S. Robertson)
Rosenkranz, Robert (Rosenkranz)
R&R Telecommunications Partners (R&R)

SCNY Communications, Inc. (SCNY)
Seaview Telesystems Partners (Seaview)
Siegel, Lewis W. (L. Siegel)
Siegel, Michael S. (M. Siegel)
Sloan, Kim (Sloan)
SMC Associates (SMC)
Snelling, Charles D. (Snelling)
Telecom Investment Corp. (TIC)
Telecommunications/Haddock Investors (THI)
University of Texas-Pan Am (UTPA) and RioVision, jointly (Texas Petitioners)
Video Communications Corporation (VCC)
Video/Phone
Wechsler, Diane (Wechsler)
Wolff, Ivan (Wolff)

March 11, 1997

**FCC CHAIRMAN REED HUNDT
STATEMENT REGARDING COMMISSION
ADOPTION OF LMDS SERVICE AND AUCTION RULES**

Re: Rulemaking to Amend Parts 1, 2, 21, and 25 of the Commission's Rules to Redesignate the 27.5-29.5 GHz Frequency Band, to Reallocate the 29.5-30.0 GHz Frequency Band, to Establish Rules and Policies for Local Multipoint Distribution Service and for Fixed Satellite Services, CC Docket No. 92-297; Petitions for Reconsideration of the Denial of Applications for Waiver of the Commission's Common Carrier Point-to-Point Microwave Radio Service Rules; Suite 12 Group Petition for Pioneer Preference, PP-22.

The Commission today has affirmed the interest of the public in the new digital age, planting the flag of public interest on this new terrain. In this item we have said that we reserve the right at some future time to define specifically the public interest commitment in LMDS. This means that all bidders and future licensees are on notice that the public interest will be served.

At the same time, the Commission has defined this service as broadly as possible opening the door to potential new sources of competition for cable television, local telephony and data



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services. The auction method is the right way to assign licenses to those who have the best plans. Our flexible rules are the best way to allow licensees freedom to design and implement those plans. This approach will introduce competition, allow the market to make decisions about business plans and preserve our ability to adopt specific and quantifiable public interest rules where necessary.

-FCC-

Separate Statement of Commissioner James H. Quello

March 11, 1997

Re: Rulemaking to Amend Parts 1, 2, 21, and 25 of the Commission's Rules to Redesignate the 27.5-29.5 GHz Frequency Band, to Reallocate the 29.5-30.0 GHz Frequency Band, to Establish Rules and Policies for Local Multipoint Distribution Service and for Fixed Satellite Services, CC Docket No. 92-297; Petitions for Reconsideration of the Denial of Applications for Waiver of the Commission's Common Carrier Point-to-Point Microwave Radio Service Rules; Suite 12 Group Petition for Pioneer Preference, PP-22.

I am pleased that, with the long awaited release of this item,¹ the rules governing Local Multipoint Distribution Service (LMDS) are finally in place. Because I have publicly expressed my

¹ Second Report and Order, Order on Reconsideration, and Fifth Notice of Proposed Rulemaking ("Order").

disappointment that this service has been delayed far too long by regulatory inaction, I write separately to state that I am heartened by the bottom-line cuts. The *Order* as a whole is well reasoned and well written. The decisions on particular issues are firmly grounded in the public interest.

I support this *Order* because of the potential public interest benefits offered by an additional innovative transmission medium -- local multipoint distribution -- for communications services. I believe that it is likely that LMDS providers will become a positive competitive force in the near term. The panoply of services proposed under the expansive definition that we have given 'LMDS' hold the promise of jump-starting competition to traditional voice, video, and data communications service providers.

The benefits of competition to the consumers of communications services are beyond peradventure. The FCC has pursued an overarching deregulatory policy of encouraging competition for many years. Moreover, the development of real and demonstrable competition was the touchstone principle that pervades the sweeping changes to our enabling statute that were codified in the Telecommunications Reform Act of 1996. The licensing of LMDS will at last allow innovative communications entrepreneurs to begin to fulfill the regulatory and legislative vision of vigorous competition across a broad range of services.

LMDS is a new family of services that will challenge the entrenched monopolies. For this reason, we have established only minimal rules. We have affirmatively declined to impose so-called "public interest obligations" on these fledgling services. Additionally, we have designed a competitive bidding schema that balances the competitive opportunities for incumbent monopoly providers of similar services in-region and new entrants.

Although it has taken far too long, the result is carefully crafted. LMDS will benefit from the certainty gained by this Commission resolving the fundamental issues "up-front."

March 11, 1997

**Separate Statement
of
Commissioner Susan Ness**

*Re: Rules and Policies for Local Distribution Service and for Fixed Satellite Services,
CC Docket No. 92-297*

I support the Commission's decision to place a limited, short-term eligibility restriction on in-region local exchange carriers (LECs) and cable companies.

The rationale for this short-term eligibility restriction is based upon well-founded and sound economics and antitrust policy. Our record contains the informed views of the Antitrust Division of the U.S. Department of Justice, the Economic Staff of the Federal Trade Commission, the Attorneys General of seventeen states, and the National Telecommunications and Information Administration. All support eligibility restrictions, based upon their assessments of the status of competition in the local exchange and cable television markets, the potential pro-competitive impact that independent LMDS operators could have in these markets, and the adverse impact upon competition that would result from extending eligibility to incumbent LECs and cable firms. These parties speak for consumers of telecommunications services and no one else, and I am glad that the majority has heeded their opinions and advice.

The Commission will be assigning an unprecedented amount of spectrum -- 1150 megahertz -- to a single licensee. By comparison, all of the PCS licenses together totalled 120 megahertz -- one-tenth the size of the LMDS license. The record indicates that licensees need broad bandwidth to offer a comprehensive LMDS service. Therefore, only one provider will be licensed in each geographic area. Because in most service areas LECs and cable are the sole providers of their services, they should not be permitted to further increase their market power by obtaining the exclusive LMDS license as well.

There are substantial economic incentives for these monopoly providers to seek these licenses within their service areas. Therefore, this limited restriction is pro-competitive and in the public interest. LECs and cable *will* be eligible for licenses outside their service areas. We also have provided for waivers where it can be demonstrated that the local market for these services is competitive. Our eligibility rules constitute the least restrictive means available to accomplish our pro-competitive purposes.

In her dissent, my colleague devotes a great portion of her argument to discussing the potential competitors to incumbent LECs and cable firms -- among them cellular, PCS, 38 and 18 GHz services, unbundled elements of the LECs' networks, DBS, MMDS, SMATVs, etc. However, listing these potential competitors does not alter the fact that these alternatives have not yet borne fruit, as the majority opinion notes. I agree that we are not likely to see substantial erosion of the market power of LECs and cable firms in the next three years, which is the relevant time horizon of this short-term restriction.

I hope that all of these competitive alternatives will thrive. Where incumbents no longer exercise market power in the local exchange or multichannel video markets, it would not be appropriate to restrict in-region LECs and cable firms from participating in the LMDS service (or any other service, for that matter). That is why I am pleased that our Report and Order clearly outlines the circumstances under which we would waive the restriction prior to our general review of this rule in three years. Combined with the short-term nature of the restriction, the waiver process is an

appropriate means of responding where competition has developed in some markets more rapidly than in others.

Our decision today not only holds out the promise of a new source of competitive entry, but also recognizes the interests of incumbents by providing a mechanism for them to participate in this service once they no longer exercise market power. In the meantime, the short-term restriction will accelerate the day when the video and telephone markets become deconcentrated and competitive. This is the course that is most likely to bring benefits of increased choice, better service, and lower prices to American consumers.

March 11, 1997

**STATEMENT OF COMMISSIONER RACHELLE B. CHONG
DISSENTING IN PART**

Re: Rulemaking to Amend Parts 1, 2, 21, and 25 of the Commission's Rules to Redesignate the 27.5-29.5 GHz Frequency Band, to Establish Rules and Policies for Local Distribution Service and for Fixed Satellite Service, CC Docket No. 92-297, Second Report and Order, Order on Reconsideration and Fifth Notice of Proposed Rulemaking

I support the majority of our decision today to adopt service and competitive bidding rules for the new Local Multipoint Distribution Service ("LMDS"). I am pleased we have finally released this long overdue *Second Report and Order* launching this innovative new service. What I find most exciting about LMDS is that its licensees may provide new competition in the local exchange telephone market, the multichannel video programming distribution ("MVPD") market, or the Internet access market. I write separately, however, to dissent from the portion of the *Second Report and Order* restricting the eligibility of in-region cable companies and local exchange carriers ("LECs") from bidding on the 1,150 MHz block of LMDS spectrum in their authorized or franchised service areas.² I also write separately to clarify the portion of our decision related to public interest obligations.

In my view, an eligibility restriction is a very drastic regulatory measure. It acts as a complete ban to an industry's participation in an innovative new service within its service area.³ It would be my preference to reserve eligibility restrictions for those instances where the record shows that extreme measures are clearly warranted to prevent a substantial competitive harm to a specific market.

I do not believe this is one of those instances. Here, eligibility restrictions are imposed not to *prevent* a specific and predictable harm, but in an attempt to enhance the mere possibility of competition in the local exchange and MVPD markets. When viewed in light of our decision for a flexible use allocation for LMDS, the decision to impose eligibility restrictions simply does not make sense. To the contrary, by precluding the participation of incumbent LEC and cable operators, competition in those markets may well be harmed by arbitrarily denying some of the strongest potential competitors the ability to branch out into new markets. For example, today's decision would preclude an incumbent LEC from buying the LMDS spectrum to offer a new wireless video programming service that could provide much needed competition in

² *Second Report and Order*, Section II.B.4, paras. 146-99.

³ The majority has tried to defuse the adverse impact of the eligibility restrictions by limiting their effective period to three years. However, since the eligibility restrictions effectively preclude the incumbents' participation in the auction, they effectively bar in-region cable companies and LECs from offering LMDS in their service areas.

the MVPD market. Similarly, this decision would preclude an incumbent cable operator from buying the spectrum to make a bold move into the wireless telephony market.

The Order justifies its eligibility restrictions because incumbent LECs and cable operators allegedly have an incentive to preempt local competition by buying an LMDS license.⁴ At best, this argument is speculative. While LECs and cable operators may have an incentive to preclude competition in their markets, this argument succeeds only if one of two things are true. Either LMDS spectrum must provide a unique opportunity for enhancing competition in both of the markets, or, if the LMDS opportunity is not unique, then LECs and cable operators must have the resources and the ability to preclude all other potential competitors. In this case, neither situation is true.

As an initial matter, LMDS does not provide a unique opportunity for cable or telephone competition. On the local exchange side, there are a large number of likely alternative sources of competition besides LMDS. As one LEC commenter has noted:

Competition can be expected from a variety of sources: cable system operators reconditioning their networks to permit two-way networked communications, mobile telephone operations (*viz.*, *e.g.* cellular and PCS), various workgroup wireless offerings based on rationalization of current spectrum assignments, various new satellite-based services, 38 GHz licensees like WinStar, and 18 GHz DEMS licensees like the Associated Group (which just hired Alex Mandl to run its operations in 31 individual markets). Obviously a number of operators with substantial financial backing (MFS, Teleport, MCI Metro) are deploying conventional networks and taking advantage of profit opportunities wherever they exist under the current "crazy quilt" of regulated prices. Many new competitors (including AT&T) will be availing themselves of opportunities to compete by purchasing unbundled offerings and reselling LEC retail offerings.⁵

⁴ See *Second Report and Order*, at para. 162-63.

⁵ Bell Atlantic Ex Parte submitted September 12, 1996, John Haring and Charles L. Jackson, *Economic Disabilities of License Eligibility and Use Restriction*, at 9. Significantly, the Commission placed no eligibility restrictions on LECs' acquisition of this other spectrum, other than a general spectrum cap of 45 MHz that was imposed on all acquirers of commercial mobile radio services ("CMRS") spectrum. See *In the Matter of Implementation of Sections 3(n) and 332 of the Communications Act; Regulatory Treatment of Mobile Services; Amendment of Part 90 of the Commission's Rules to Facilitate Future Development of SMR Systems in the 800 MHz Frequency Band; Amendment of Parts 2 and 90 of the Commission's Rules To Provide for the Use of 200 Channels Outside the Designated Filing Areas in the 896-901 MHz and 935-940 MHz Band Allotted to the Specialized Mobile Radio Pool*, Third Report and Order, 9 FCC Rcd 7988 (1994).

Similarly, on the cable side, there are a number of actual competitors already. Competitors in the MVPD market include Direct Broadcast Service ("DBS") operators, MMDS operators, wireless cable, SMATVs, home satellite dishes, and over the air broadcast television.⁶ Many of these competitors are making significant inroads to compete with the cable operators. For example, our recent Video Competition Report finds that DBS subscribership has increased substantially since 1995, and some observers project that DBS operators will offer service to "over 20% of all MVPD subscribers by the year 2000."⁷ Electric utilities and Internet access providers also will pose competitive challenges to cable operators in the coming years.⁸

In the face of all of this budding competition, the argument that in-region LECs and cable companies will invest in LMDS spectrum merely to preempt competition seems quite speculative. Our record is bare of evidence indicating that incumbent LECs and cable operators will indeed use such a strategy for LMDS.⁹ Nor does our recent experience with the PCS spectrum auctions show that incumbent LECs will make concerted efforts to buy the spectrum in their areas to preempt competition.

The majority recognizes that these other sources of potential and actual competition to LECs and cable operators remove the anticompetitive incentives for incumbents bidding on 150 MHz LMDS licenses.¹⁰ Unfortunately, this reasoning was not extended to the 1150 MHz block.¹¹ The majority asserts that, "these various competitive prospects, taken together, do not mean that an incumbent LEC or cable TV firm will be unable to preserve substantial market power or delay significantly the development competition by acquiring in-region [1150 MHz] LMDS licenses."¹² I disagree. LMDS has great potential, but as noted above, LMDS is not the only path to a competitive cable and local telephone marketplace. Thus,

⁶ See generally *In the Matter of Annual Assessment of the Status of Competition in the Market for the Delivery of Video Programming*, Third Annual Report, CS Docket No. 96-133, FCC 96-496 (1997).

⁷ *Id.* at para. 38.

⁸ *Id.* at paras. 95-112.

⁹ The DBS/Primestar situation is distinguishable from this case since the DBS spectrum could be used only to provide MVPD service. In contrast, LMDS spectrum can be used to provide not only services that compete with the incumbents, but also those which legitimately complement traditional telephony and cable television services.

¹⁰ *Second Report & Order*, at paras. 182.

¹¹ *Id.* at paras. 162-64, 170-75.

¹² *Id.* at para. 164.

I believe that substantial anticompetitive effects from open eligibility for LMDS are unlikely, because the relevant markets are in fact becoming increasingly competitive.¹³

The majority asserts that the primary goal of the eligibility restriction is to encourage competition in both the telephony and MVPD markets.¹⁴ They seem to assume that the best use of the LMDS spectrum by any licensee would be for a combined offering of telephony *and* video services. What is ironic is that the *Second Report and Order* does not require licensees to use the LMDS spectrum for either telephony or video services. We have all agreed to give LMDS licensees discretion to choose how to use the spectrum.¹⁵ Given this flexible allocation decision, I cannot understand how it makes sense to allow some competitors to use the spectrum for some purposes while preventing others, specifically incumbent LECs and cable operators, from making that same decision.

The majority acknowledges that the incumbent LEC's use of the LMDS spectrum to provide video services would increase competition in the MVPD market.¹⁶ However, they go on to assert that this increase in competition would not assuage their concerns because they have no way of knowing whether the LEC's use of the spectrum would be the most economically efficient use of the spectrum.¹⁷ What troubles me here is that the majority appears to distrust market forces to deliver the most efficient use of the spectrum, and instead, believes the government must second-guess the marketplace and impose heavy regulatory restrictions on the basis of sheer conjecture.

It was exactly this type of speculation that caused the Sixth Circuit Court to reverse our decisions with regard to eligibility restrictions on PCS spectrum in *Cincinnati Bell Telephone Co. v. FCC*.¹⁸ In that decision, the Sixth Circuit rejected the FCC's eligibility restrictions that prevented certain cellular providers from buying PCS licenses in their service

¹³ This increased competition in local telephone and cable markets are a result of both the efforts of the Commission to inject more competition in recent years and the new procompetitive Telecommunications Act of 1996, which removed outdated legal barriers and allowed major telecommunications players to enter each other's markets.

¹⁴ *Second Report and Order*, at para. 159.

¹⁵ I note that I do not believe that a flexible use allocation *always* serves the public interest. Having said that, in this instance, I supported a flexible allocation for LMDS because there is already technology developed for the spectrum, and because there appears to be a well-defined market demand for at least three types of services: telephony, video and Internet access.

¹⁶ *Second Report and Order*, at paras. 170, 173.

¹⁷ *Id.* at paras. 171, 173.

¹⁸ 69 F.3d 752 (1995).

area.¹⁹ Since the eligibility restrictions had "such a profound effect on the ability of businesses to compete in the twenty-first century technology of wireless communications, it was incumbent upon the FCC to provide more than its own broadly stated fears to justify its rules."²⁰ I believe that this case is no different. In my view, our order relies on only broadly stated fears -- "general economic theory" -- to fix a market failure that has not occurred and is not likely to occur.²¹

What is overlooked is what the incumbent providers have to offer as competitors in the cable and local exchange telephone markets. The Commission has already acknowledged that cable operators could provide valuable facilities-based competition in the LEC market and vice versa.²² The concept of cross fertilization between telephone companies and cable operators is exactly what drove the Commission's policies on "video dialtone"²³ and Congress' efforts to create "open video systems."²⁴ Both were designed to encourage local telephone companies to enter the video business in their service areas to provide much needed competition to the cable TV market. Moreover, one of the main goals of the 1996 Act was to abolish outdated legal and barriers to allow current market players to compete in other lines of business previously prohibited to them. Yet, our action today will deny incumbent LECs and cable operators the

¹⁹ 69 F.3d at 763.

²⁰ *Id.* at 764.

²¹ *Second Report and Order*, at para. 161.

²² See *In the Matter of Annual Assessment of the Status of the Market for the Delivery of Video Programming*, Third Annual Report, CS Docket No. 96-133, FCC 96-496, para. 128 (1997); *In the Matter of Implementation of Section 302 of the Telecommunications Act of 1996*, Third Report and Order and Second Order on Reconsideration, CS Docket No. 96-46, FCC 96-334, para. 49-51 (1996); *In the Matter of Implementation of the Local Competition Provisions in the Telecommunications Act of 1996*, CC Docket No. 96-98, FCC 96-325, para. 882 (1996).

²³ See *Telephone Company-Cable Television Cross-Ownership Rules, Sections 63.54-63.58*, Further Notice of Proposed Rulemaking, First Report and Order and Second Further Notice of Inquiry, 7 FCC Rcd 300, 330 (1991) (*First Report and Order*), Memorandum Opinion and Order on Reconsideration, 7 FCC Rcd 5069 (1992) (*Video Dialtone Reconsideration Order*), *aff'd*, National Cable Television Ass'n v. FCC, 33 F.3d 66 (D.C. Cir. 1994); *Telephone Company-Cable Television Cross-Ownership Rules, Sections 63.54-63.58*, Second Report and Order, Recommendation to Congress, and Second Further Notice of Proposed Rulemaking, 7 FCC Rcd 5781 (1992) (*Video Dialtone Order*), *aff'd*, Memorandum Opinion and Order on Reconsideration and Third Notice of Proposed Rulemaking, 10 FCC Rcd 244 (1994), (*Video Dialtone Reconsideration Order and Third Further Notice*); *Telephone Company-Cable Television Cross-Ownership Rules, Sections 63.54-63.58*, Third Report and Order, CC Docket No. 87-266, 60 FR 31924 (June 19, 1995) (*Third Report and Order*); *Telephone Company-Cable Television Cross-Ownership Rules, Sections 63.54-63.58*, Fourth Report and Order, CC Docket No. 87-266, FCC 95-357 (August 14, 1995) (*Fourth Report and Order*); *repealed by Telecommunications Act of 1996 § 302(b)(3)*.

²⁴ See *In the Matter of Implementation of Section 302 of the Telecommunications Act of 1996*, Third Report and Order and Second Order on Reconsideration, CS Docket No. 96-46, FCC 96-334 (1996); *In the Matter of Implementation of Section 302 of the Telecommunications Act of 1996*, Second Report and Order, CS Docket No. 96-46, FCC 96-249 (1996).

ability to realize important efficiencies, gain economies of scale, and provide unfettered "one stop shopping" to consumers.

By foreclosing the ability of incumbent LECs and cable operators to provide competition in the MVPD and telephony markets respectively, our decision also may run afoul of Congressional intent. At least with regard to telephone company entry into the video market, Congress has stated that there should be a number of options for that entry, including LMDS. In addressing the establishment of open video systems, Congress recognized that "telephone companies need to be able to choose from among multiple video entry options to encourage entry, and so systems under this section [are] allowed to tailor services to meet the unique competitive and consumer needs of individual markets."²⁵ In addressing effective competition to cable companies, Congress recognized that LECs might provide video programming services 'by any means' and defined this to include "any medium (other than direct-to-home satellite service) for the delivery of comparable programming, including MMDS, LMDS, an open video system, or a cable system."²⁶ Consistent with Congressional intent, I believe that we should have given incumbent LECs and cable operators the same opportunities and the same access to technology that we provide to all competitors in the MVPD and local exchange markets. Thus, I respectfully dissent to this portion of today's decision.

With regard to public interest programming obligations for eventual LMDS licensees who use the spectrum to provide video services, the majority wisely chose not to impose quantified programming obligations. First, I believe it to be premature to impose programming obligations, especially when we do not know who the LMDS licensees will be and whether they will even provide video services such that a programming obligation would be relevant.

Second, it is my view that a quantified programming obligation would improperly place the heavy hand of government on the programming decisions of the LMDS providers. While we have put the licensees on notice that the Commission could decide in the future to initiate a proceeding to consider programming obligations, such a proceeding is not imminent. Unlike other services in which Congress has made specific pronouncements requiring programming obligations, Congress has *not* directed the Commission to impose obligations on this nascent service; I see no evidence of a compelling need to do so at this time. Finally, I believe that the Commission should think long and hard before deciding to embark on such a regulatory course down a path that will have the Commission ordering all licensees who program content to air certain amounts of programming by government fiat.

²⁵ S. Conf. Rep. No. 104-230, 104th Cong., 2d Sess. 177 (1996)(*Conference Report*).

²⁶ *Conference Report* at 170.